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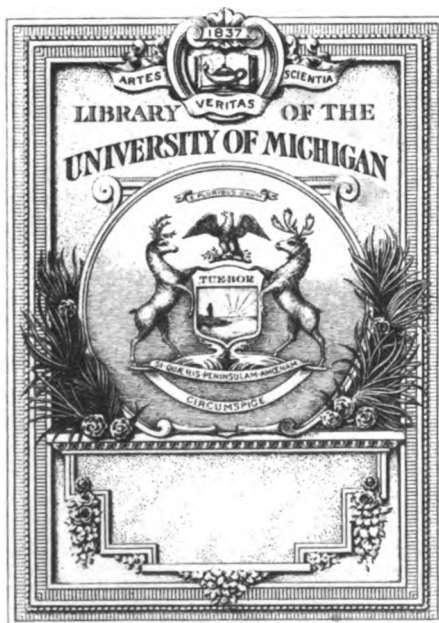
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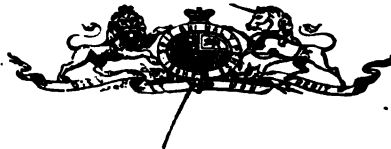
VOLUME 8.

FIRST SESSION OF THE SEVENTH PARLIAMENT

OF THE

DOMINION OF CANADA.

SESSION 1891.



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OTTAWA :

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1. Public Accounts of Canada, for the fiscal year ended 30th June, 1890 ; presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster. Estimates for the year ending 30th June, 1892 ; presented 18th May, 1891. Supplementary Estimates for the year ending 30th June, 1891 ; presented 4th June, 1891. Supplementary Estimates, 1891-32 ; presented, 16th September, 1891. Further Supplementary Estimates for the year ending 30th June, 1892 ; presented 29th September, 1891. *Printed for both distribution and sessional papers.*
2. List of Shareholders in the Chartered Banks of the dominion of Canada, as on the 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

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3. Report of the Auditor General on Appropriation Accounts, for the year ended 30th June, 1890. Presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

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4. Tables of the Trade and Navigation of the dominion of Canada, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. M. Bowell—
Printed for both distribution and sessional papers

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5. Report, Returns and Statistics of the Inland Revenues of the dominion of Canada, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Costigan. *Printed for both distribution and sessional papers.*
- 5a. Inspection of Weights, Measures and Gas, being a supplement to the report of the department of inland revenue, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. Costigan—
Printed for both distribution and sessional papers.
- 5b. Report on Adulteration of Food, for the fiscal year ended 30th June, 1890. Presented to the House of Commons, 1st June, 1891, by Hon. J. Costigan—
Printed for both distribution and sessional papers.
6. Report of the Minister of Agriculture for the dominion of Canada, for the calendar year 1890. Presented to the House of Commons, 5th May, 1891, by Hon. John Haggart—
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- 10.** Annual Report of the Minister of Railways and Canals for the past fiscal year, from the 1st July, 1889, to 30th June, 1890, on the works under his control. Presented to the House of Commons, 5th May, 1891, by Sir John A. Macdonald.....*Printed for both distribution and sessional papers.*
- 10a.** Canal Statistics for season of Navigation, 1890. Presented to the House of Commons, 4th June, 1891, by Hon. M. Bowell.....*Printed for both distribution and sessional papers.*
- 10b.** Reports, Railway Statistics of Canada, and capital, traffic and working expenditure of the railways of the Dominion, 1890. Presented to the House of Commons, 24th June, 1891, by Hon. M. Bowell.....*Printed for both distribution and sessional papers.*

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- 11a.** Preliminary abstract of the business of Canadian Life Insurance Companies for the year ending 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
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- 11b.** Abstract of statements of Insurance Companies in Canada, for the year ending 31st December, 1890. Presented to the House of Commons, 12th May, 1891, by Hon. G. E. Foster—
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- 12.** Report of the Minister of Justice as to Penitentiaries in Canada, for the year ended 30th June, 1890. Presented to the House of Commons, 6th May, 1891, by Sir John Thompson—
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- 13.** Annual Report of the Department of Militia and Defence of the dominion of Canada, for the year ending 31st December, 1890. Presented to the House of Commons, 11th May, 1891, by Sir Adolphe Caron.....*Printed for both distribution and sessional papers.*
- 14.** Report of the Secretary of State, for the year ended 31st December, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau—
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- 14a.** The Civil Service List of Canada, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau.....*Printed for both distribution and sessional papers.*
- 14b.** Report of the Board of Examiners for the civil service of Canada, for the year ended 31st December, 1890. Presented to the House of Commons, 5th May, 1891, by Hon. J. A. Chapleau—
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- 14c.** Report of the Department of Public Printing and Stationery for the dominion of Canada, for the year ending 30th June, 1890, with a partial report for services during six months ending 31st December, 1890. Presented to the House of Commons, 4th June, 1891, by Hon. J. A. Chapleau—
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- 15.** Report of the Joint Librarians of Parliament on the state of the library of parliament. Presented to the House of Commons, 30th April, 1891, by Hon. Mr. Speaker...*Printed for sessional papers only.*

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- 17.** Annual Report of the Department of the Interior, for the year 1890. Presented to the House of Commons, 4th May, 1891, by Hon. E. Dewdney—
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- 17a.** Summary Report of the Geological Survey Department, for the year 1890. Presented to the House of Commons, 4th May, 1891, by Hon. E. Dewdney—
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- 18.** Annual Report of the Department of Indian Affairs, for the year ended 31st December, 1890. Presented to the House of Commons, 4th May, 1891, by Hon. E. Dewdney.—
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- 19.** Report of the Commissioner of the North-West Mounted Police, 1890. Presented to the House of Commons, 18th May, 1891, by Sir John A. Macdonald.—
Printed for both distribution and sessional papers.
- 20.** Statement of Governor General's Warrants issued since the closing of Parliament, and of the expenditure made on them, in accordance with the Consolidated Revenue and Audit Act. Presented to the House of Commons, 4th May, 1891, by Hon. G. E. Foster....*Printed for distribution only.*
- 20a.** Return to an order of the House of Commons, dated 18th May, 1891, for a return showing details of the following items of expenditure which appear in the statement of Governor General's warrants issued since the closing of the last parliament: July 10th, 1890, franchise act, \$4,000; March 26th, 1891, Kingston graving dock, \$6,006.14; August 30th, 1890, new dredging plant, \$5,991.91; March 26th, 1891, breakwater at Southampton, \$38,022.39; April 28th, 1891, cost of litigated matters, \$10,468.79; January 31st, 1891, seed grain to settlers in N.W.T., \$2,298.18. Presented to the House of Commons, 22nd May, 1891.—*Mr. Mulock.**Printed for distribution only.*
- 21.** Statement of expenditure on account of Miscellaneous Unforeseen Expenses from 1st July, 1890, to 30th April, 1891. Presented to the House of Commons, 6th May, 1891, by Sir John A. Macdonald....*Printed for distribution only.*
- 22.** Return to an order of the House of Commons, dated 6th May, 1891, for a return of the receipts and expenditures in detail, chargeable to the consolidated fund, from the 1st day of May, 1890, to 1st day of May, 1891; and comparative statements from 1st July, 1889, to 1st May, 1890. Presented to the House of Commons, 12th May, 1891.—*Sir R. Cartwright.*.....*Printed for distribution only.*
- 22a.** Return to an order of the House of Commons, dated 15th May, 1891, for a return giving comparative statement of receipts and expenditures from 1st July, 1890, to 10th May, 1891, and from 1st July, 1889, to 10th May, 1890. Presented to the House of Commons, 18th May, 1891.—*Sir R. Cartwright.*.....*Printed for distribution only.*
- 22b.** Statement of receipts and expenditures, in detail, chargeable to the consolidated fund, from 1st July, 1889, to 20th May, 1890; and like statement from 1st July, 1890, to 20th May, 1891. Presented to the House of Commons, 22nd May, 1891, by Hon. G. E. Foster.....*Printed for distribution only.*
- 22c.** Statement of receipts and expenditures, in detail, chargeable to the consolidated fund, from 1st July, 1889, to 31st May, 1890; and like statement from 1st July, 1890, to 31st May, 1891. Presented to the House of Commons, 1st June, 1891, by Hon. G. E. Foster.....*Printed for distribution only.*
- 22d.** Statement of receipts and expenditures, in detail, chargeable to the consolidated fund, from 1st July, 1889, to the 10th June, 1890; and like statement from 1st July, 1890, to 10th June, 1891. Presented to the House of Commons, 17th June, 1891, by Hon. G. E. Foster.—
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- 23.** Statement of all superannuations and retiring allowances in the civil service, giving the name and rank of each person superannuated or retired, his salary, age and length of service, his allowance and cause of retirement, whether the vacancy has been filled by promotion or new appointment, etc., for year ended 31st December, 1890. Presented to the House of Commons, 11th May, 1891, by Hon. G. E. Foster.....*Printed for sessional papers only.*
- 24.** List of public officers to whom commissions have issued under chapter 19 of the Revised Statutes of Canada, during the year 1890. Presented to the House of Commons, 12th May, 1891, by Hon. J. A. Chapleau.....*Printed in No. 14.*
- 25.** Return (*in part*) under resolution of the House of Commons, passed on the 20th February, 1882, on all subjects affecting the Canadian Pacific Railway, respecting details as to: 1. Selection of the route. 2. The progress of the work. 3. The selection or reservation of land. 4. The payment of moneys. 5. The laying out of branches. 6. The progress thereon. 7. The rates of tolls for passengers and freight. 8. The particulars required by the Consolidated Railway Act and amendments thereto, up to the end of the previous fiscal year. 9. Like particulars up to the latest practicable date before the presentation of the return. 10. Copies of all orders in council and all

- correspondence between the government and the railway company, or any member or officer of either, relating to the affairs of the company. Presented to the House of Commons, 14th May, 1891, by Hon. E. Dewdney *Printed for sessional papers only.*
- 25a.** List of lands sold by the Canadian Pacific Railway Company, from the 1st October, 1889, to 1st October, 1890. Presented to the House of Commons, 27th May, 1891, by Hon. E. Dewdney—
..... *Printed for sessional papers only.*
- 26.** Return to an order of the House of Commons, dated 14th May, 1891, for an abstract copy or copies of the cargoes carried by the steamships subsidized to run between the maritime provinces and the West Indies on each voyage during the present year 1891; showing the character and value of the cargoes carried and the port or ports of lading and discharge of such cargoes, with an abstract of any other information given in such manifest; and also showing number of trips made by the steamers subsidized to carry on the steam service between the maritime provinces and the West India ports, during the year 1890; the dates of such trips, amount paid for each trip, the person or company carrying out said service for the present year, and whether any contract has been entered into for the service this year, and what rates are being paid therefor and to whom. Presented to the House of Commons, 18th May, 1891—*Mr. Davies*. *Printed for sessional papers only.*
- 26a.** Return to an address of the House of Commons, to his excellency the Governor General of the 27th May, 1891, for: 1. Copies of all correspondence and reports to council on the subject of payment of subsidies to the Canadian, West Indian and South American Steamship Company, and to Messrs. Pickford and Black, or either of them, and for copies of all contracts between the Canadian, West Indian and South American Steamship Company (Limited), and Messrs. Pickford and Black, or either of them, and the government, for the steam service between Canada and the West Indies, entered into during the year 1890. 2. Also the names of persons or companies to whom the subsidies for the steam service between St. John, N.B., and the West Indies were paid, previously to the execution of the contract by the Canadian, West Indian and South American Steamship Company, and the amounts so paid, and dates. Also the amount paid, and dates when paid to such steamship company, after entering into the contract. Presented to the House of Commons, 13th July, 1891—*Mr. Davies* *Printed for sessional papers only.*
- 27.** Return to an Order of the House of Commons, dated the 6th May, 1891, for a return giving the date of the declarations in every riding during the recent general election. If adjournments or enlargements were made, in any case, from the time fixed at the nominations, stating where, when, how often and for what reason, and giving the name and address of the returning officer where such occurred; also giving the name, occupation and post office address of every returning officer; showing the date of return by returning officer to the clerk of the crown in chancery, and the date of receipt of each by the clerk of the crown in chancery; together with the name of the electoral district and the member elected thereto, and the date of publication of his return in the *Canada Gazette*. Also copies of all letters written by or on behalf of any member of the government to any member elect or to any other person or persons suggesting that any returning officer be asked to delay making his return to the clerk of the crown in chancery. Presented to the House of Commons, 19th May, 1891.—*Mr. Landerkin*. *Printed for sessional papers only.*
- 27a.** Return of the Seventh General Election for the House of Commons of Canada, by Samuel E. St. O. Chapleau, Esq., Clerk of the Crown in Chancery for Canada. Presented to the House of Commons, 19th May, 1891, by Hon. J. A. Chapleau. *Printed for both distribution and sessional papers.*
- 28.** Detailed statement of all bonds and securities registered in the department of the secretary of state of Canada, since last return, 1890, submitted to the parliament of Canada under section 23, chapter 19, of the Revised Statutes of Canada. Presented to the House of Commons, 20th May, 1891, by Hon. J. A. Chapleau. *Not printed.*
- 29.** Return to an order of the House of Commons, dated 11th May, 1891, for a return showing a detailed account of all expenses incurred in connection with an investigation held into the conduct of the indian agent at Sutton West. Presented to the House of Commons, 21st May, 1891.—*Mr. Mulock* *Not printed.*
- 29a.** Return to an order of the House of Commons, dated 18th May, 1891, for a list and prices paid for all articles purchased for the indians of the counties of Guysboro' and Antigonish, including in said list any cattle purchased as well as farming implements, during the last three years. Also statement of prices realized from sale of cattle or other articles purchased for the use of the indians in said counties. Also statement in full of articles belonging to the department of the interior in said counties for the use of the said indians. Presented to the House of Commons, 27th May, 1891.—*Mr. Fraser*. *Not printed.*

- 30.** Return to an address of the House of Commons to his excellency the Governor General, dated 11th May, 1891, for a return of: 1. Copies of all correspondence and telegrams between the department of militia and defence, or any officer thereof, and the commander of "C" battery, having reference to sending a detachment of men under his command to Wellington on the 4th or 5th day of August last, ostensibly to aid the civil authorities of that district. 2. Also copies of the requisition served on the said commanding officer, invoking military aid at Wellington, together with the names of the magistrates who signed the requisition, also the distance from Wellington at which said magistrates reside. 3. Also copies of the reports of the commanding officer, confidential or otherwise, as to the necessity there was for the military occupation of Wellington, and for their continuance there, until they were recalled. 4. Also of all telegraphic or other correspondence between the department of militia and defence, or any officer of the government of Canada, and the provincial government of British Columbia, or with any officer thereof, if any, or with any other person, in reference to sending the said military force to Wellington. 5. Also a detailed statement of all moneys disbursed by the government of Canada, or by any department thereof, either as regimental pay, or for active service allowance, either to the officers and men of "C" battery, or both officers and men of the British Columbia Garrison Artillery, while on service at Wellington, or for their maintenance while there, or for their transportation to and from Wellington. 6. Also copies of all militia general and special orders issued by the militia department for the regulation and guidance of the officers of "C" battery since its establishment in British Columbia. Presented to the House of Commons, 22nd May, 1891.—*Mr. Gordon*—
Not printed.
- 30a.** Return to an order of the House of Commons dated 3rd June, 1891, for a return of all reports from the deputy adjutant general of military district No. 11 to the minister of militia, since January, 1888: 1. In regard to "C" battery barracks. 2. In regard to drill hall in Victoria. 3. In regard to removal of magazine from Beacon Hill Park. 4. In regard to condition of guns, stores, gun platforms, etc. Also copies of all correspondence between the deputy adjutant general of military district No. 11 and the minister of militia, on the same subjects, since the same date. Presented to the House of Commons, 1st July, 1891.—*Mr. Prior*.....*Not printed.*
- 31.** Return to an address of the House of Commons, to his excellency the Governor General, dated 14th May, 1891, for a return of all petitions addressed to the government, praying for the analysis of intoxicating liquor manufactured or offered for sale, by wholesale or retail, in the dominion of Canada. Presented to the House of Commons, 22nd May, 1891.—*Mr. Curran*.*Not printed.*
- 32.** Return to an order of the House of Commons, dated 14th May, 1891, for copies of correspondence, papers, and all documents respecting steps taken by the government during last session, or since that time, to prevent American cheese being shipped through or from Canadian ports, and branded as Canadian; also copies of the instructions now given to the proper authorities or preventive officers on the subject. Presented to the House of Commons, 26th May, 1891.—*Mr. Marshall*—
Not printed.
- 33.** Return to an order of the House of Commons, dated 6th May, 1891, for a return in the form used in the statements usually published in the *Gazette* of the exports and imports from 1st day of May, 1890, to 1st day of May, 1891, distinguishing the products of Canada and those of other countries; and comparative statements from 1st July, 1889, to 1st May, 1890. Presented to the House of Commons, 27th May, 1891.—*Sir R. Cartwright*.*Printed for distribution only.*
- 34.** Copies of papers relating to the sale of the Carleton Branch Railway to the city of St. John. Presented to the House of Commons, 29th May, 1891, by Hon. G. E. Foster*Not printed.*
- 34a.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th June, 1891, for copies of all orders in council, correspondence, papers, reports and documents in relation to the returning of the debentures of the North Shore Railway Company. Presented to the House of Commons, 10th August, 1891.—*Mr. Langelier*.....*Printed for sessional papers only.*
- 34b.** Return to an order of the House of Commons, dated 20th July, 1891, for all papers in reference to the claim of Hugh Munroe, of River John, Pictou County, for damages for injuries caused to his farm by the building of the Short Line Railway. Presented to the House of Commons, 10th August, 1891.—*Mr. Fraser*.....*Not printed.*
- 34c.** Return to an address of the House of Commons to his excellency the Governor General, dated 20th July, 1891, for copies of all correspondence, petitions and memorials relating to the construction of a line of railway by the Inverness and Richmond Railway Company (Limited), in the county of Inverness, up to date. Presented to the House of Commons, 10th August, 1891. *Mr. Cameron (Inverness)*.....*Not printed.*

- 34d.** Return to an address of the House of Commons to his excellency the Governor General, dated 20th July, 1891, for copies of all petitions, letters or communications whatsoever received by the government from any of the municipalities of the county of Napierville, or from any person in the said county, and of any answers made by the government thereto, up to the 5th March last, in relation to the granting of a subsidy in aid of the construction of a railway between the village of Napierville and the village of St. Rémi. Presented to the House of Commons, 10th August, 1891.—*Mr. Monet*..... *Not printed.*
- 34c.** Return to an order of the House of Commons, dated the 18th June, 1891, for a return showing:
1. The names of the several railways in the dominion to which dominion aid has been granted, except the Canadian Pacific main line 2. The province within which the said railway, in whole or in part, is located, and if located in two or more provinces, the number of miles in each. 3. The county or counties through which the said lines run in each province. 4. The amount of money paid to each up to the 1st January, 1891. 5. The railways built in the dominion by the dominion since confederation, excepting the main line of the Intercolonial and main line of the Canadian Pacific. 6. The province within which built. 7. The entire cost of each line built or assisted by the dominion, in each province, including equipment. 8. The entire sum spent up to 1st January last, on the construction of dominion roads in each province, excepting the Intercolonial main line and Canadian Pacific main line. Presented to the House of Commons, 14th September, 1891.—*Mr. McMullen*..... *Printed for sessional papers only.*
- 35.** Report of the Commissioner, Dominion Police, for the year 1890, under Revised Statutes of Canada, chapter 184, section 5. Presented to the House of Commons, 1st June, 1891, by Sir John Thompson..... *Not printed.*
- 36.** Return to an address of the House of Commons to his excellency the Governor General, dated 12th May, 1891, for copies of all orders in council, letters, correspondence, and documents of every nature respecting the resignation of James Thurber, Esq., lieutenant-colonel of the sedentary militia, in the county of Lotbinière; the appointment of his son, Mr. William Thurber, as light-house keeper in the parish of St. Croix; and the refusal of the government to grant to the said James Thurber, Esq., the amount claimed by him as his superannuation allowance. Presented to the House of Commons, 1st June, 1891.—*Mr. Rinfret*..... *Not printed.*
- 36a.** Return to an order of the House of Commons, dated 11th May, 1891, for all correspondence and papers relating to the resignations and re-appointments to office of the following parties: Samuel Genest, John Cosgrove and Charles Leduc. Presented to the House of Commons, 4th June, 1891.—*Mr. Devlin*..... *Not printed.*
- 36b.** Return to an order of the House of Commons, dated 18th June, 1891, for a return of all letters, correspondence and papers relating to the cause of the resignation and removal of William Laidlow, of Arthur, from the North-West Mounted Police, and all papers and correspondence relating to his application for compensation for the loss of his thumb while in the service; also the award of compensation paid him, if any. Presented to the House of Commons, 6th July, 1891.—*Mr. McMullen*..... *Not printed.*
- 37.** Return to an order of the House of Commons, dated 12th May, 1891, for a return showing how many yards of cotton sail duck have been imported at Halifax, Nova Scotia, from the 30th June, 1889, to 30th June, 1890, and from 30th June, 1890, to 30th December, 1890, and the value of such importation respectively. Presented to the House of Commons, 2nd June, 1891.—*Mr. White (Shelburne)*..... *Not printed.*

CONTENTS OF VOLUME No. 17.

- 38.** Papers relating to the extension and development of trade between the United States and the dominion of Canada, including the colony of Newfoundland. Presented to the House of Commons, 3rd June, 1891, by Sir John Thompson..... *Printed for both distribution and sessional papers.*
- 38a.** Further papers relating to the extension and development of trade between the United States and dominion of Canada, including the colony of Newfoundland. Presented to the House of Commons, 22nd June, 1891, by Sir John Thompson. *Printed for both distribution and sessional papers.*
- 38b.** Copy of a report of the honourable the privy council of the 4th November, 1890, relative to the proposal made by the government of Canada to the governors of British West India Islands and of British Guiana for the extension of trade, together with correspondence, etc., referring to the same subject. Presented to the House of Commons, 29th July, 1891, by Hon. G. E. Foster—
Printed for both distribution and sessional papers.

- 38c. Correspondence and telegrams respecting the Spanish American Treaty. Presented to the House of Commons, 22nd September, 1891, by Hon. G. E. Foster. *Printed for sessional papers only.*
39. Return to an order of the House of Commons, dated 27th May, 1891, for copies of the report of the enquiry held by J. B. Caouette, in 1890, respecting the abstraction, from the post office at Isle Verte, of a newspaper addressed to a resident of that parish ; of all letters from the post office department to the said Caouette, and replies thereto, and of any report made by the said Caouette ; also of all official correspondence in relation to the said enquiry. Presented to the House of Commons, 16th June, 1891.—*Mr. Amyot*. *Not printed.*
- 39a. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, petitions and memorials relating to and praying for the construction of a suitable post office in the town of Buckingham, county of Ottawa. Presented to the House of Commons, 16th June, 1891.—*Mr. Devlin*. *Not printed.*
- 39b. Return to an address of the House of Commons to his excellency the Governor General, dated 27th May, 1891, for copies of all petitions, memorials, reports and orders in council in reference to the establishment of a post office at Campbellton, in the county of Inverness, Nova Scotia. Presented to the House of Commons, 19th June, 1891.—*Mr. Laurier*. *Not printed.*
- 39c. Return to an order of the House of Commons, dated 5th May, 1891, for a return showing the contingent expenses of the several salaried postmasters of the dominion for the fiscal years 1888, 1889 and 1890. Presented to the House of Commons, 24th July, 1891.—*Mr. McMullen*—
Printed for sessional papers only.
- 39d. Return to an order of the House of Commons, dated 15th May, 1891, for a return showing the amount deposited in each of the post office and dominion savings banks in the dominion on the 30th June, 1891. Presented to the House of Commons, 12th August, 1891.—*Mr. McMullen*—
Not printed.
- 39e. Return to an order of the House of Commons, dated 20th July, 1891, for copies of correspondence between the proprietor or proprietors of the newspaper *Le Canada*, published at Ottawa, and any member of the government ; also of any correspondence between any member of the government and any other person in relation to the suspension of the publication in the said newspaper *Le Canada*, of the table showing the arrival and departure of mails at the Ottawa post office. Presented to the House of Commons, 12th August, 1891.—*Mr. Beauséuil*. *Not printed.*
- 39f. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, correspondence and petitions relating to the establishment of a post office in the township of Lowe, county of Ottawa ; also petitions, memorials and documents complaining of the mail service between Ste. Emile de Suffolk and St. André Avelin, in the county of Ottawa. Presented to the House of Commons, 17th August, 1891.—*Mr. Devlin*. *Not printed.*
40. Return to an order of the House of Commons, dated 5th May, 1891, for copies of the tenders asked for to construct a graving dock at Kingston ; the tenders received ; the reports and calculations made by the engineers of the department of public works made and based on these tenders ; the contract which has been entered into ; the reports of the engineers which may have been made on the carrying out of the works ; or the changes which may have been made in them ; and also a statement of the sums paid out to the contractors up to date. Presented to the House of Commons, 4th June, 1891.—*Mr. Guay*. *Not printed.*
- 40a. Return to an order of the House of Commons, dated 8th July, 1891, for copies of the tenders received and accepted for the construction of a caisson in connection with the Esquimalt graving dock ; the report of Mr. H. F. Perley in this connection ; and all other correspondence referring to this contract. Presented to the House of Commons, 4th August, 1891.—*Mr. Tarte*. *Not printed.*
- 40b. Papers respecting the Kingston graving dock. Presented to the House of Commons, 6th July, 1891, by Sir Hector Langevin. *Not printed.*
- 40c. Return to an address of the House of Commons to his excellency the Governor General, dated 1st July, 1891, for : 1. Copy of original plan and also of alteration made to Kingston dry dock, showing the additional excavations, crib work, extra masonry and additional iron works in caissons, together with the quantities of each class of extra work paid or undertaken to be paid for, and the rates of payment for the said extra work. 2. Copy of the order in council, dated 5th July, 1890, concerning the contract for the building of said dry dock. Presented to the House of Commons, 19th August, 1891.—*Mr. Amyot*. *Not printed.*
- 40d. Return to an order of the House of Commons, dated 3rd August, 1891, for copies of all petitions, correspondence, reports of surveys and any other documents relating to the construction of a dry

- dock at the town of Amherstburg. Presented to the House of Commons, 20th August, 1891.—*Mr. Allan* *Not printed.*
41. Return to an order of the House of Commons, dated 14th May, 1891, for a return giving the report of Mr. J. R. Arnoldi, engineer of the mechanical department of public works, to the special committee on ballot boxes last session. Presented to the House of Commons, 4th June, 1891.—*Mr. Landerkin* *Printed for sessional papers only.*
42. Return to an order of the House of Commons, dated 11th May, 1891, for a return of all papers, correspondence and other documents relating to the dredging on the bar of the Kaministiquia River, Thunder Bay, since July, 1890, including the advertisement, tenders received and contract for such dredging; also engineer's report to the department, showing what progress has been made in the work up to the 1st of December last; also statement showing the amounts paid on account of such work, to whom paid, dates and amounts of such payments. Presented to the House of Commons, 4th June, 1891.—*Mr. Campbell* *Not printed.*
43. Return to an order of the House of Commons, dated 5th May, 1891, for copy of the report of H. F. Perley, Esq., chief engineer of the public works department, respecting the causes of the flooding by the waters of the Richelieu River, of the lands of the riparian owners, in the counties of Ibrerville, St. John and Missisquoi. Presented to the House of Commons, 4th June, 1891.—*Mr. Béchard* *Not printed.*
- 43a. Return to an order of the House of Commons, dated 13th June, 1891, for copies of all correspondence, letters, reports and documents of every description, respecting the deepening of the river and the lifting and removal of boulders from the batture of St. Jean Deschallons. Presented to the House of Commons, 22nd July, 1891.—*Mr. Rinfret* *Not printed.*
- 43b. Return to an order of the House of Commons, dated 13th July, 1891, for copies of reports of engineers as to improvements in the navigation of the Grand River. Presented to the House of Commons, 4th August, 1891.—*Mr. Montague* *Not printed.*
- 43c. Supplementary return to an address of the Senate to his excellency the Governor General, dated 21st January, 1890, for copies of all reports and other communications in reference to the deposit of sawdust, slabs and other offensive material in the Ottawa and other rivers of the dominion, together with a letter from the deputy minister of fisheries relative thereto. Presented to the Senate, 19th August, 1891.—*Hon. Mr. Clemow* *Printed for sessional papers only.*
- 43d. Return to an order of the House of Commons, dated 3rd August, 1891, for copies of petitions, correspondence, etc., relating to reconstruction, by private parties, of the Caledonia Dam, across the Grand River. Presented to the House of Commons, 14th September, 1891.—*Mr. Montague*—*Not printed.*
44. Return to an order of the House of Commons, dated 15th May, 1891, for copies of all letters, communications, and reports in the possession of the government, relating to the fixing of a standard of time and the legalization thereof. Presented to the House of Commons, 4th June, 1891.—*Mr. Kirkpatrick* *Printed for both distribution and sessional papers.*
45. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all letters and correspondence between the government or any member thereof, or any public department, and Mr. Solyme Forgues, of St. Michel de Bellechasse, returning officer, in relation to the last dominion election in the electoral district of Bellechasse. Presented to the House of Commons, 4th June, 1891.—*Mr. Amyot* *Not printed.*
46. Return to an order of the House of Commons, dated 18th May, 1891, for a return showing what amount of money was expended in repairing wharf at Big Bay, in the township of Keppel, North Grey, during the summer of 1890; whether the work was let by tender or private contract; who performed the work; who acted as inspector, and what compensation did the inspector receive. Presented to the House of Commons, 4th June, 1891.—*Mr. Somerville* *Not printed.*
47. Return to an order of the House of Commons, dated 27th May, 1891, for a return showing the number of bushels of potatoes exported from Canada from 1st October, 1890, to 1st May, 1891, and the place to which exported. Presented to the House of Commons, 6th June, 1891.—*Mr. McMullen*—*Printed for sessional papers only.*
48. Return to an order of the House of Commons, dated 3rd June, 1891, for a return of all correspondence between all persons and the department of marine and fisheries, recommending or with reference to a reward given to Captain Peterson of the American schooner "Seigfried," for his services in rescuing the captain and crew of the schooner "Blizzard," of Lunenburg, in October last. Presented to the House of Commons, 16th June, 1891.—*Mr. Flint* *Not printed.*

49. Return to an order of the House of Commons, dated 3rd June, 1891, for correspondence with the department of marine respecting presentation of binocular glasses to the volunteers rescuing the crew of the barque "Medmerly," lost on Ray's Island, Pictou County, in November last past. Presented to the House of Commons, 16th June, 1891.—*Mr. Fraser*..... *Not printed.*
50. Return to an order of the House of Commons, dated 18th May, 1891, for copy of all correspondence, papers and reports, in the possession of the government, relating to the locality for holding the camp of militia district No. 1, for the years 1890 and 1891. Presented to the House of Commons, 16th June, 1891.—*Mr. Hyman*..... *Not printed.*
51. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials and any other documents submitted to the privy council, in connection with the abolition of the official use of the French language in the province of Manitoba by the legislature of that province; also copies of reports to, or orders in council thereon; also copies of the act or acts relating thereto. Presented to the House of Commons, 18th June, 1891.—*Mr. LaRivière*..... *Printed for both distribution and sessional papers.*
52. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of the order in council of date the 10th May, 1888, granting a subsidy of \$12,500 per annum to Mr. Julien Chabot, for the use of the steamboat "Admiral," between Dalhousie and Gaspé, in connection with the Intercolonial Railway; and also of all other orders in council which may have been passed afterwards in respect to the same steamboat. Presented to the House of Commons, 19th June, 1891.—*Mr. Guay*..... *Not printed.*
- 52a. Return to an order of the House of Commons, dated 5th May, 1891, for copies of the contract with the owners or owner, or the party in possession of the steamboat "Admiral," made by the government in consequence of an order in council bearing date the 10th May, 1888; also of the contracts, deeds or transfers which may have been executed or notified to the government, since the said date of the 10th of May, 1888; also a statement of the sums paid out for the use of the said steamboat; the names of the persons to whom these sums have been paid; and the date of the payments and of the receipts which have been given therefor. Presented to the House of Commons, 24th June, 1891.—*Mr. Guay*..... *Not printed.*
- 52b. Return to an address of the House of Commons to his excellency the Governor General, dated 13th July, 1891, for copies of any order or orders in council, adopted between the years 1883 and 1888, in relation to the steamer "Admiral" and the service performed by the said steamer between Dalhousie and Gaspé or other points, in connection with the Intercolonial Railway. Presented to the House of Commons, 10th August, 1891.—*Mr. Tarte*..... *Not printed.*
- 52c. Return to an address of the House of Commons to his excellency the Governor General, dated 13th July, 1891, for copies of the contract or contracts between the owners or owner or person in possession of the steamer "Admiral" and the government, between the years 1883 and 1888; also copies of all deeds of transfer, etc., filed with the government, in respect of the said steamer; also a statement of all sums paid during the said period of time for the service of the said steamer, with the names of the persons to whom the said sums were paid and the dates of such payments. Presented to the House of Commons, 10th August, 1891.—*Mr. Tarte*..... *Not printed.*
53. Return to an order of the House of Commons, dated 6th May, 1891, for a return showing the cost of construction of the several elevators built on the Intercolonial Railway and branches; showing where erected and the capacity of each; the date of erection, and the quantity of grain that passed through each of them, each year, since their completion. Presented to the House of Commons, 19th June, 1891.—*Mr. McMullen*..... *Not printed.*
- 53a. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all letters, documents, etc., between the officials of the Intercolonial Railway at Moncton and the department of railways in relation to the accident at St. Joseph de Lévis, on the 18th December, 1890. Presented to the House of Commons, 19th June, 1891.—*Mr. Carroll*..... *Not printed.*
- 53b. Return to an order of the House of Commons, dated 1st July, 1891, for all correspondence, telegrams, letters, reports and other papers relating to the proposed "additional property accommodation" of Intercolonial Railway at St. John, N.B. Presented to the House of Commons, 12th August, 1891.—*Mr. Davies*..... *Not printed.*
- 53c. Return to an order of the House of Commons, dated 8th July, 1891, for copies of all paper writings, documents, depositions, etc., respecting or in connection with the enquiry held at St. Flavie, on the line of the Intercolonial Railway, into the conduct of Mr. Hornidas Ouillet, superintendent

of the workshops of the said Intercolonial Railway, as well as in relation to any other employees. Presented to the House of Commons, 26th September, 1891.—*Mr. Choquette*.....*Not printed.*

- 54.** Return to an order of the House of Commons, dated 11th May, 1891, for : 1. A statement of all fishing licenses granted in 1890, in the following counties: Berthier, Maskinongé, St. Maurice, Champlain, Nicolet, Yamaska and Richelieu, showing the names of those who obtained such licenses, the amount paid by each of them and the date of each payment. 2. A statement of the quantity and value of the several kinds of fish taken by the said license-holders, according to the reports of the fishery overseers for the said counties. 3. Copies of all instructions sent to the fishery overseers of the said several counties in 1890 and 1891, up to date. 4. Copies of all letters, petitions and complaints received in relation to this subject during the years 1890 and 1891, up to this date, and of all replies made thereto. 5. For a statement of the salaries of the fishery overseers of the said counties, and of all other costs and expenditure incurred by the government in connection with the fisheries of the counties aforesaid, during the year 1890. Presented to the House of Commons, 22nd June, 1891.....*Not printed.*
- 54a.** Return to an order of the House of Commons, dated 3rd June, 1891, for a return showing the names of all persons in the county of Queen's, Nova Scotia, to whom fishing bounties have been paid during the last five years, with the amount paid each, and the dates of payment; the amount still unpaid, with the names of the persons to whom such bounties are still due. Presented to the House of Commons, 23rd June, 1891.—*Mr. Forbes*.....*Not printed.*
- 54b.** Return to an order of the House of Commons, dated 18th May, 1891, for a return of the names of all persons in the county of Guysboro' to whom fishing bounties have been paid during the last three years, with the amount paid each, the amount still unpaid with the names of the persons to whom such bounties are still due. Presented to the House of Commons, 23rd June, 1891.—*Mr. Fraser*—*Not printed.*
- 54c.** Return to an order of the House of Commons, dated 27th May, 1891, for a return showing the amount paid for the supplies required by the crews of the several government vessels engaged in the fishery protection service, in the province of Ontario, for the fiscal year ending 30th June, 1890, together with the names of parties from whom purchases were made, and the prices paid. Presented to the House of Commons, 24th June, 1891.—*Mr. Somerville*..... *Not printed.*
- 54d.** Return to an order of the House of Commons, dated 3rd June, 1891, for a return of papers, correspondence, reports and other documents in the possession of the government relating to the subject of the herring fisheries of the Bay of Fundy and its adjacent waters during the past year, including the report of the conference of fishery officers held at Ottawa on the subject. Presented to the House of Commons, 30th June, 1891.—*Mr. Bowers*..... *Not printed.*
- 54e.** Return to an order of the House of Commons, dated 13th May, 1891, for a return of the costs and expenses of adjusting the amounts claimed for fishery bounties and of preparing and distributing the fishery bounty cheques in each year since 1883, and also the names of the persons authorized to distribute the bounty cheques in the province of Nova Scotia during the years 1889, 1890 and 1891. Presented to the House of Commons, 16th July, 1891.—*Mr. Flint*—
Printed for sessional papers only.
- 54f.** Return to an order of the House of Commons, dated 13th May, 1891, for a return giving the names of all persons in the county of Guysboro' fined for violation of the fishery laws, since the 1st day of January, 1890; the amount of each fine and costs; the sum collected of each; the names of the parties whose fines have been remitted, with the reason for such remission; the names of parties in said county against whom fines are still outstanding, with the amount of each and costs. Presented to the House of Commons, 22nd June, 1891.—*Mr. Fraser*..... *Not printed.*
- 54g.** Return to an address of the House of Commons to his excellency the Governor General, dated 15th May, 1891, for a return of all papers, letters and documents in any way whatever relating to the dispensing with the services of J. R. Graham, of Fenelon Falls, as fishery inspector or overseer within the county of Victoria, and of all communications with or representations to the government, or any member thereof, or any officer or clerk in the department of marine and fisheries, relating to the said J. R. Graham and the performance of his duties prior to dispensing with his services; and of all new rules or regulations (if any) for the appointment of fishery inspectors in said county and the performance of their duties. Presented to the House of Commons, 3rd August, 1891.—*Mr. Barron*..... *Not printed.*
- 54h.** Return to an address of the Senate to his excellency the Governor General, dated 30th April, 1890, for copies of all departmental orders relating to the fisheries of the counties of Richelieu and Ber-

- thier, and a copy of all correspondence had since 1887 between the department of fisheries and the fishery officers of the said counties on this subject. Presented to the Senate, 14th July, 1891.—*Hon. Mr. Guévremont*.....*Not printed.*
- 54i. Return to an order of the House of Commons, dated 27th July, 1891, for copies of all correspondence connected with the appointment of George Boisvert as fishery officer over that portion of the River St. Lawrence along the front of the county of Nicolet. Also for copies of all correspondence connected with the issuing of fishing licenses for the county of Nicolet between Fabien Boisvert, at that time member of the House of Commons of Canada, or any other persons, and the government. Presented to the House of Commons, 21st August, 1891.—*Mr. Leduc*.....*Not printed.*
55. Return to an order of the House of Commons, dated 18th May, 1891, for a return for the years 1889 and 1890 of all reports from or correspondence with the superintendent of the Prince Edward Island Railway, with respect to the condition of the road-bed or the rails of such railway, together with any reports or representations made with respect to such road-bed or rails by any of the track masters or other officers of said road. 2. Showing what portion in mileage of such road-bed has been relaid with steel rails since the completion of such road. Presented to the House of Commons, 2nd July, 1891.—*Mr. Davies*.....*Not printed.*
56. Statement of the affairs of the British Canadian Loan and Investment Company, for the year ended 31st December, 1890; also a list of shareholders on 31st December, 1890. Presented to the Senate, 4th May, 1891, by the Hon. the Speaker.....*Not printed.*
57. Return to an order of the House of Commons, dated 5th May, 1891, for a return showing the quantities and kinds of timber and sawlogs cut annually in the lately disputed territory, in the province of Ontario, under the authority of timber licenses issued by the government of Canada; the names of such licensees; and showing also how the dues were imposed, and the amount per thousand feet, board measure, realized by the government of Canada from each person or firm so licensed in each year from 1875 to 1887, inclusive; or what royalty or other revenue was received by the government from licensees aforesaid on such quantities cut or sold. Presented to the House of Commons, 6th July, 1891.—*Mr. Barron*.....*Printed for sessional papers only.*
58. Return to an order of the House of Commons, dated 12th May, 1891, for a return giving the date at which the steamer "Stanley" commenced running between Prince Edward Island and the mainland in the fall of 1890, how many trips made, date of each trip, the number of passengers and the amount of freight taken to and from Prince Edward Island; the amount of money collected on account of passengers and the amount for freight; also the expenses of working said steamer during the winter of 1891, and the date at which said steamer stopped running from Prince Edward Island to the mainland; together with the report of the deputy minister, dated 5th March, 1891, touching this steamer, and all correspondence, telegrams and representations made to the marine and post office departments touching the mail and steamboat service between the island and the mainland. Presented to the House of Commons, 13th July, 1891.—*Mr. Perry*—*Not printed.*
59. Return to an address of the House of Commons to his excellency the Governor General, dated 8th July, 1891, for copies of all petitions, correspondence and documents whatsoever, respecting the grant of a subsidy to the Quebec Oriental Railway. Presented to the House of Commons, 20th July, 1891.—*Mr. Vaillancourt*.....*Not printed.*
60. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, letters or telegrams addressed to the auditor general with reference to the payment of accounts as rendered to the auditor general by the returning officer of the electoral district of the east riding of Elgin; also the names and post office addresses of the returning officer, deputy returning officers, poll clerks and constables for the electoral district of the east riding of Elgin; also the respective amounts as claimed by each; the amount actually paid to each up to date, including amount of balance, if any, as rendered by the returning officer in his original account to the auditor general. Presented to the House of Commons, 14th July, 1891.—*Mr. Ingram*—*Not printed.*
- 60a. Return to an address of the House of Commons, to his excellency the Governor General, dated 27th July, 1891, for copy of all correspondence between John A. Macdonald, M. P. (Victoria, N. S.), or any other parties in the county of Victoria, N. S., and the government, or any department or official of the government, previous to the late general elections, in reference to the appointment of a returning officer at said elections for said county. Presented to the House of Commons, 3rd August, 1891.—*Mr. Flint*.....*Not printed.*

61. Return to an order of the House of Commons, dated 18th June, 1891, for copy of the report of Collingwood Schreiber, Esq., upon survey made by him of the river St. Lawrence immediately opposite and in the vicinity of the city of Quebec, for the purpose of ascertaining whether it was possible to build a railway bridge there. Presented to the House of Commons, 14th July, 1891.—*Mr. Laurier*. *Printed for both distribution and sessional papers.*
62. Return to an address of the House of Commons to his excellency the Governor General, dated 11th May, 1891, for all correspondence between any department of the government and H. E. Hartley, late lockmaster on the Carillon and Grenville Canal, in reference to his retirement from the civil service, and any report to council or order in council upon the same subject, together with all papers connected with the dismissal of Mr. Hartley. Presented to the House of Commons, 26th June, 1891.—*Mr. Christie*. *Not printed.*
- 62a. Return to an order of the House of Commons, dated 1st July, 1891, for a copy of the report of Thos. Monro, government engineer, upon the Manchester Ship Canal. Presented to the House of Commons, 21st July, 1891.—*Mr. Mulock*. *Printed for both distribution and sessional papers.*
- 62b. Return to an order of the House of Commons, dated 18th May, 1891, for copies of all letters, correspondence, documents and papers showing the number of extra or additional men employed on the old and new Welland Canal, between the 10th day of February, 1891, and the 7th day of March, 1891; the names of such men, the work required to be done, and the amount of money paid to each man. Presented to the House of Commons, 28th July, 1891.—*Mr. German*. *Not printed.*
- 62c. Return to an address of the Senate to his excellency the Governor General, dated 17th June, 1891, for a statement and account showing the amount of money received and taken in excess of what was just and proper by William Ellis, superintendent of the Welland Canal, if any, from the 29th day of December, 1879, until the 11th day of September, 1889; also a statement showing the amount of money paid back by Mr. Ellis, if any, and date of payments, if any. Further, a copy of the bond given as security by Mr. Ellis, if any, to secure the payment of the money taken in excess. Presented to the Senate, 29th July, 1891.—*Hon. Mr. McCallum*. *Not printed.*
- 62d. Return to an address of the House of Commons to his excellency the Governor General, dated 17th June, 1891, for copies of all petitions, letters and communications from the city of St. Catharines, and other municipalities on the Welland Canal, or from any persons or corporations, for the privilege of using surplus water from said canal for manufacturing or other purposes; and of the reports of engineers of canals, thereon, and the replies of the government to all such applications. Presented to the House of Commons, 12th August, 1891.—*Mr. Gibson*. *Not printed.*
- 62e. Return to order of the House of Commons, dated 13th July, 1891, for: 1. Copies of the specifications prepared by the government and which formed the basis of the call for tenders for the work of constructing a drain from Lachine to Cote St. Paul, along the Lachine Canal. 2. Copies of all tenders filed for the said work, and of the reports of the officers of the department of railways and canals thereupon. 3. Copies of the report awarding the contract for the said work, and of the said contract. Presented to the House of Commons, 12th August, 1891.—*Mr. Préfontaine*. *Not printed.*
- 62f. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all reports of engineers respecting the proposed Soulanges Canal, showing the number of sections into which the work is to be divided, the length of each section, the quantities of the several classes of work in each section, and detailed estimates of the cost of each section; the whole to be accompanied with a continuous tracing or plan and profile of the whole line showing the several sections and the structures of each section. Presented to the House of Commons, 12th August, 1891.—*Mr. Mousseau*. *Not printed.*
- 62g. Return to an order of the House of Commons, dated 27th May, 1891, for a statement showing all expenditure, and a return of all reports and plans of government engineers, if any, in connection with the Soulanges Canal, from 1873 to 1889, exclusively, and from 1889, inclusively, to June, 1890; also a return of all plans and specifications made by engineers and completed by them, at the said date, June, 1890, in relation to the said Soulanges Canal. Presented to the House of Commons, 12th August, 1891.—*Mr. Mousseau*. *Printed for both distribution and sessional papers.*
- 62h. Return to an address of the House of Commons to his excellency the Governor General, dated 27th May, 1891, for copies of all tenders, both first and second calls, for sections one, two and three respectively, of the enlargement of the Rapide Plat or Morrisburg Canal, a division of the St. Lawrence Canals, the return to comprise the quantities of the several items in the schedule of prices on which the tenders were computed, and the aggregate of each tender. Also copies of all correspondence, orders in council, reports of engineers relating to the tenders, or contracts, for

- works, or as to changes in location or of designs, and all estimates in detail of the cost of said works and the reason for rejecting the first batch of tenders. Presented to the House of Commons, 21st August, 1891.—*Mr. Murray*. *Not printed.*
- 62*i*. Return to an order of the House of Commons, dated 3rd June, 1891, for a return of all letters and memorials complaining of the high water in the Rideau Canal between Kingston and Jones' Falls; copies of letters from Colonel By and others, showing the depth of water allowed for vessels navigating the canal; a statement showing the average depth of water in the canal for the first forty years after construction, and for the last ten years; also for copies of plans and reports of engineers engaged on the survey of the Kingston Mills Level, showing the estimate of cost of lowering the water and the quantity of land to be reclaimed if the water is lowered. Presented to the House of Commons, 26th September, 1891.—*Mr. Kirkpatrick*. *Not printed.*
63. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials, briefs and factums, and of any other documents submitted to the privy council in connection with the abolition of separate schools in the province of Manitoba by the legislature of that province; also copies of reports to, and orders in council thereon; also copies of any act or acts of said legislature abolishing said separate schools or modifying in any way the system existing prior to 1890. Presented to the House of Commons, 20th July, 1891.—*Mr. LaRivière*. *Printed for both distribution and sessional papers.*
- 63*a*. Return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for a copy of all petitions presented to his excellency with reference to the school acts of Manitoba; and all memorials, reports, orders in council and correspondence in connection with the same. Presented to the House of Commons, 20th August, 1891.—*Mr. Devlin*. *Not printed.*
- 63*b*. Supplementary return to an address of the House of Commons to his excellency the Governor General, dated 5th May, 1891, for copies of all correspondence, petitions, memorials, briefs and factums, and of any other documents submitted to the privy council in connection with the abolition of separate schools in the province of Manitoba by the legislature of that province; also copies of reports to, and orders in council thereon; also copies of any act or acts of said legislature abolishing said separate schools or modifying in any way the system existing prior to 1890. Presented to the House of Commons, 4th September, 1891.—*Mr. LaRivière*.—
Printed for both distribution and sessional papers.
64. Return to an order of the House of Commons, dated 13th July, 1891, for copies of the petition of right presented to the minister of justice for his *flat* by Joseph Desmarteau for improvements alleged to have been made by him on a "piece of land forming part of the property heretofore known as Logan's Farm, and being a portion of the lot number eleven hundred and thirty-six (1136) of the official plan and book of reference of the St. Mary's Ward, in the city of Montreal, measuring one hundred and fifty-six feet in width by a depth of four hundred and fifty-two (452) feet on the south-west side, and four hundred and eighty-seven (487) feet on the north-east side, English measure, and more or less, and being bounded on the north-east side by the highway known as Papineau Road, on the south-west side by a portion of the said lot number eleven hundred and thirty-six (1136), on the south-east by the lot number eleven hundred (1100) of said plan and book of reference, and on the north-west by Sherbrooke Street, being another portion of the said lot eleven hundred and thirty-six;" of the decision of the minister of justice; and of all correspondence on the same. Presented to the House of Commons, 21st July, 1891.—*Mr. Laurier*. *Not printed.*
65. Return to an address of the Senate to his excellency the Governor General, dated 12th May, 1890, for a statement showing the expenses incurred by the inspector of penitentiaries in his visits, ordinary or extraordinary, to St. Vincent de Paul Penitentiary during the last ten years, as well as his personal expenses for each day of such visits, as those occasioned on each day of such visits by his travelling from Montreal to St. Vincent de Paul, and *vice versa*, for horses, servants, and their keep and lodging. Presented to the Senate, 18th June, 1891.—*Hon. Mr. Bellrose*. *Not printed.*
- 65*a*. Supplementary return *re* St. Vincent de Paul Penitentiary. Presented to the Senate, 19th June, 1891, by Hon. Mr. Abbott. *Not printed.*
- 65*b*. Return to an address of the Senate to his excellency the Governor General, dated 30th July, 1891, for a detailed copy of accepted tender, giving estimated quantity, price per unit, and amount of all drugs and medicines to be supplied the British Columbia Penitentiary by McPherson & Thompson, of New Westminster, B.C., for the year ending 30th June, 1892. Presented to the Senate, 12th August, 1891.—*Hon. Mr. McInnes (Victoria, B.C.)*. *Not printed.*

66. Return to an address of the Senate to his excellency the Governor General, dated 23rd June, 1891, for copies of all correspondence between the department of justice and the judges in Canada charged with judicial functions in criminal matters as well as the attorney general of each province, respecting the expediency of abolishing the functions of the grand jury in relation to the administration of criminal justice. Presented to the Senate, 8th July, 1891.—*Hon. Mr. Gowan*—
Printed for both distribution and sessional papers.
67. Statement of amounts paid for claims for bounty on pig iron manufactured in the dominion; showing quantities claimed upon and names of claimants, as well as amount paid in each case. Presented to the House of Commons, 28th July, 1891, by *Hon. Mr. Bowell*—
Printed for both distribution and sessional papers.
68. Return to an address of the House of Commons to his excellency the Governor General, dated 1st July, 1891, for a statement showing the amount of dominion notes in circulation on 31st May, 1891, and amount of gold and guaranteed debentures held in security on said date for redemption of said notes. Also statement showing the proportion of such gold reserve held by the minister of finance and receiver-general, and the proportion thereof held by any chartered banks for such redemption. Also statement showing the arrangements made with such banks, under which they hold such gold reserve. Presented to the House of Commons, 29th July, 1891.—*Mr. Mulock*—
Not printed.
69. Departmental report on charges preferred against the Commissioner of the North-West Mounted Police. Presented to the House of Commons, 30th July, 1891, by *Sir John Thompson*—
Printed for sessional papers only.
70. Return to an order of the House of Commons, dated 13th May, 1891, for copies of all correspondence since 1st July, 1890, from the New Glasgow board of trade and other boards or persons, respecting the through train from Sydney, C.B., to Oxford, Cumberland County, *via* the Short Line Railway. Also copies of all correspondence during said time from any person or persons, asking for better railway accommodation between Pictou and New Glasgow, to and from Halifax. Presented to the House of Commons, 31st July, 1891.—*Mr. Fraser*. *Not printed.*
71. Return to an order of the House of Commons, dated 27th May, 1891, for copies of all tenders for the construction of the Annapolis public buildings; a copy of the contract entered into with the Government for the construction of the same; a copy of the conveyance to the Queen of the land upon which the same are erected; a statement of all amounts paid to the contractor on account of the work, with dates of payment. Presented to the House of Commons, 4th August, 1891.—*Mr. Lister*—
Not printed.
72. Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence and all documents, or other information in the possession of the Government, relating to entire horses stationed at the central experimental farm, or at any other of the experimental farms in the dominion of Canada. Presented to the House of Commons, 4th August, 1891.—*Mr. McMillan*—
Not printed.
73. Return to an order of the House of Commons, dated 27th July, 1891, for copies of all correspondence and orders relative to the dismissal of William Saunders and William Muttart, section foremen of the Prince Edward Island Railway, in March or April last. Presented to the House of Commons, 10th August, 1891.—*Mr. Perry*. *Not printed.*
- 73a. Return to an order of the House of Commons, dated 27th July, 1891, for a return of all correspondence, letters or papers in any way connected with the dismissal, in June, 1884, of one Samuel Johnston, from his position as a preventive officer, in her majesty's customs, for the station from Clifton to Dunnville. Presented to the House of Commons, 23rd September, 1891.—*Mr. German*—
Not printed.
74. Return to an order of the House of Commons, dated 27th May, 1891, for a return showing: 1. Copies of all reports and correspondence relating to the permit system, and the administration thereof; copies of all regulations under which liquor is brought into the North-West Territories and sold there; also copies of all memorials addressed to the government relating to the present system and the sale of liquors, and the replies to the same. 2. Copies of orders or regulations relating to the sale of liquor on passenger trains in the North-West Territories, and within the limits of Banff Park, and statement of kinds and quantities of liquor so sold. Presented to the House of Commons, 12th August, 1891.—*Mr. Watson*. *Not printed.*
75. Return to an order of the House of Commons, dated 18th June, 1891, for copies of the pay-roll of the last military camp at Sorel and St. John's, P.Q. Presented to the House of Commons, 18th August, 1891.—*Mr. Lépine*. *Not printed.*

- 75a.** Statement showing names of tenderers, names of contractors and contract prices of military clothing for 1891-92. Presented to the House of Commons, 21st August, 1891, by Sir Adolphe Caron—
Printed for sessional papers only.
- 76.** Return to an order of the House of Commons, dated 17th June, 1891, for copies of all correspondence between the minister of customs and the collector of customs at Kootenay Lake, and between the minister of customs and any other person, relating to the admission of mining machinery into the Kootenay Lake district free of duty. Also a copy of instructions from the minister of customs to the collector of customs on Kootenay River, referring to the free admission of mining machinery. Presented to the House of Commons, 20th August, 1891.—*Mr. Mara. Not printed.*
- 77.** Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, reports, paper writings and documents respecting the seizure and sale of the schooner "Marie Eliza," in 1887, by the collector of customs at Rimouski. Presented to the House of Commons, 20th August, 1891.—*Mr. Langelier. Not printed.*
- 78.** Return to an order of the House of Commons, dated 1st July, 1891, for a return showing :—1. The names of all permanent clerks in the department of public works, their duties and annual salaries. 2. Names of all extra clerks in the said department, their salaries, and the kind of work performed; also copies of their civil service examination certificates. 3. The names of all persons doing extra work outside of the building, and the nature of work, giving the names of ladies and gentlemen separately. 4. The names of mechanics or others employed in the government workshops at Ottawa. 5. The names of all messengers employed in the said department, either permanent or temporary. 6. The number and names of all labourers employed by the said department since January last, in and around the buildings under government control at Ottawa, including Rideau Hall, stating the kind of work performed and wages paid. Presented to the House of Commons, 21st August, 1891.—*Mr. McMullen. Not printed.*
- 79.** Return to an order of the House of Commons, dated 13th July, 1891, for : 1. Copies of all claims presented to the government since 1880, by Mr. Joseph Antoine Maurice, merchant, of the village of Chambly Basin, and Dame Julie Fournier, his wife, for losses suffered by them in reference to lands purchased by them from the government in 1875. 2. Copies of all correspondence and letters addressed to any department of the government by any person or persons, in relation to said matter. 3. Copies of all correspondence between any of the said departments, or between any Department and the claimants, or any persons acting for them or in their interests, in relation to such claims. 4. Copies of the order of reference made by government referring the said claims to Joseph Simard, Esq., then dominion arbitrator, and of his award. 5. Copies of correspondence following the said award. 6. Copies of the opinions given on the subject by the honourable the minister of public works, and of the opinion of the honourable the minister of justice. Presented to the House of Commons, 21st August, 1891.—*Mr. Préfontaine Not printed.*
- 80.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th June, 1891, for copies of order in council, correspondence, reports, statement of claims, receipts or accounts with or made by Dr. Walker, or on his behalf, or with or by any other person respecting the Dundas and Waterloo macadamized road, since the close of the session of 1889. Presented to the House of Commons, 24th August, 1891.—*Mr. Bain. Not printed.*
- 81.** Return to an address of the House of Commons to his excellency the Governor General, dated 3rd June, 1891, for copies of all correspondence between the imperial government and the government of Canada, on the subject of the copyright laws of Canada, and all other papers relating thereto, not already brought down. Presented to the House of Commons, 24th August, 1891.—*Mr. Edgar—
Not printed.*
- 82.** Third census of Canada—statement of population—compared with preceding censuses, 1891. Presented to the House of Commons, 26th August, 1891, by Hon. J. Haggart—
Printed for distribution only.
- 82a.** Census of Canada, 1891—electoral divisions—statement of population by districts. Also census bulletin No. 1, and statements of population of cities, of towns and of villages. Presented to the House of Commons, 27th August, 1891, by Hon. J. Haggart. *Printed for distribution only.*
- 83.** Return to an order of the House of Commons, dated 3rd August, 1891, showing : 1. The names of all employees of the customs at Montreal; the date of their appointment; their respective duties; the salary of each; their nationality; their place of birth; and, in case of their not having been born in Canada, for what period they had been in this country at the time of their appointment; and upon whose recommendation they had been appointed. 2. Whether they have all

- passed the civil service examination, and the names of those, if any, who have not passed this examination, since the law requiring it has been in force. 3. The names of those, if any, who have received salaries or pay in addition to that attached to the offices to which they were appointed; the amounts received by such persons, and for what additional work given. 4. The names of the extra labourers for whose services there was paid in 1889-90 the sum of \$12,176.25, as recorded in the Auditor General's Report for the year 1889-90 at page C—254. 5. To whom was paid the sum of \$5,930.29 for cartage at the customs house at Montreal, as recorded in the said report of the Auditor General at page C—254. Presented to the House of Commons, 14th September, 1891.—*Mr. Lépine*.....*Not printed.*
- 84.** Return to an order of the House of Commons, dated 27th May, 1891, for copies of all correspondence, memoranda, documents, letters, petitions and all papers whatsoever in relation to the encouragement of the cultivation of the sugar beet and the protection of the manufacture and refining of beet-root sugar in the dominion of Canada, exchanged between the government or any of its members and any person or company. Presented to the House of Commons, 23rd September, 1891.—*Mr. Beausoleil*.....*Not printed.*
- 85.** Return to an order of the House of Commons, dated 1st July, 1891, for copies of all correspondence, papers and documents relating to the appointment of customs officers at Crystal Beach and Point Abino, in the township of Bertie, and Carroll's Landing, in the township of Humberstone, in the county of Welland. Presented to the House of Commons, 23rd September, 1891.—*Mr. German*—*Not printed.*
- 86.** Return to an address of the Senate to his excellency the Governor General, dated 14th September, 1891, for all correspondence between his excellency and the Lieutenant Governor of the province of Quebec, in connection with the Baie des Chaleurs Railway, and all other papers and correspondence in the possession of the government on that subject. Presented to the Senate, 16th September, 1891.—*Hon. Mr. Miller*.....*Not printed.*
- 86a.** Supplementary return to an address of the Senate to his excellency the Governor General, dated 14th September, 1891, for all correspondence between his excellency and the lieutenant governor of the province of Quebec, in connection with the Baie des Chaleurs Railway, and all other papers and correspondence in the possession of the government on that subject. Presented to the Senate, 23rd September, 1891.—*Hon. Mr. Miller*.....*Not printed.*
- 86b.** Return to an address of the Senate to his excellency the Governor General, dated 21st August, 1891, for an account showing all the moneys expended by subsidy or otherwise on the Baie des Chaleurs Railway, from the commencement of the works thereon to the present time; the names of those to whom paid, and the amount, if any, appropriated to said works and remaining unpaid by the government of Canada. Presented to the Senate, 24th September, 1891.—*Hon. Mr. McInnes (Victoria, B.C.)*.....*Not printed.*
- 87.** Return to an address of the Senate to his excellency the Governor General, dated 29th May, 1891, for copies of all orders in council, commissions and instructions for nominating a person or persons specially charged to examine the situation and resources of that part of the dominion known as the Great Basin of the Mackenzie; and also of the report or reports made by such persons, in order to put the government in a position to decide upon the measures necessary for the protection and development of the territory. Presented to the Senate, 23rd September, 1891.—*Hon. Mr. Girard*.....*Printed for sessional papers only.*
- 88.** General statements and returns of baptisms, marriages and burials in the district of Chicoutimi, Gaspé, Montmagny and Iberville.....*Not printed.*

ANNUAL REPORT

OF THE

DEPARTMENT OF FISHERIES

DOMINION OF CANADA

FOR

THE YEAR 1890.

PRINTED BY ORDER OF PARLIAMENT.



OTTAWA:
PRINTED BY BROWN CHAMBERLIN, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY.
1891.

*To His Excellency the Right Honourable Lord Stanley of Preston, P.C., G.C.B., &c., &c.,
&c., Governor General of Canada, &c., &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY :

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Fisheries for the year 1890.

All of which is respectfully submitted,

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

OTTAWA, 13th February, 1891.

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OF THE

REPORT OF THE DEPARTMENT OF FISHERIES FOR THE YEAR 1890.

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 PART II.

FISHERIES PROTECTION SERVICE—Report by Lieut. A. R. Gordon, R.N. (Separately indexed.)

SEVENTH ANNUAL REPORT

OF THE

DEPUTY MINISTER OF FISHERIES,

1890.

To the Honourable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—I have the honour to submit the Annual Report of the Fisheries Department for the year 1890.

This report deals with the financial statements for the fiscal year ended 30th June, 1890, and such other general matters as are available. The fisheries statistics, however, and other data having reference to the season's catch, which are compiled to the end of the calendar year, will form the subject of a supplementary report.

EXPENDITURE AND RECEIPTS.

The total expenditure of the Department for all services, except Civil Government, amounted to, for the fiscal year, \$328,748.66, from appropriations of \$383,300.00, leaving an unexpended balance of \$54,551.34, which lapses to the treasury, no portion of this sum having been brought down for expenditure during the current fiscal year.

The revenue of the Department, including the receipts for licenses from United States' fishing vessels, and the proceeds of the sale of the condemned schooner "David J. Adams," amounted to the sum of \$56,976.83.

EXPENDITURE.

The sub-division of the expenditure is as follows:—

| Service. | Expenditure. | Vote. |
|-----------------------------------|--------------|------------|
| | \$ cts. | \$ cts. |
| Fisheries..... | 65,873 32 | 80,500 00 |
| Fish-breeding..... | 39,126 91 | 40,000 00 |
| Fisheries protection service..... | 64,434 66 | 100,000 00 |
| Fishing bounty..... | 149,999 85 | 150,000 00 |
| Miscellaneous expenditure..... | 9,313 92 | 12,800 00 |
| Total..... | 328,748 66 | 383,300 00 |

The details are printed in the Auditor General's Report, under the proper heading.

In addition to the above, the following summary shows the salaries and disbursements of Fishery officers in the several Provinces, together with the expenses for maintenance of the different fish-breeding establishments throughout the Dominion:—

| Service. | | Expenditure. | Vote. |
|--|--|--------------|-----------|
| | | \$ cts. | \$ cts. |
| Fisheries, Ontario..... | | 14,539 87 | 20,000 00 |
| do Quebec | | 9,670 94 | 14,000 00 |
| do Nova Scotia..... | | 17,395 24 | 18,000 00 |
| do New Brunswick..... | | 14,914 95 | 16,000 00 |
| do Prince Edward Island..... | | 3,113 21 | 3,500 00 |
| do British Columbia..... | | 3,634 41 | 6,000 00 |
| do Manitoba..... | | 2,604 70 | 3,000 00 |
| Total..... | | 65,873 32 | 80,500 00 |
| Fish-breeding, Newcastle hatchery..... | | 5,583 66 | |
| do Sandwich do | | 3,911 95 | |
| do Ottawa do | | 1,998 70 | |
| do Tadoussac do | | 2,393 91 | |
| do Gaspé do | | 1,420 99 | |
| do Magog do | | 679 02 | |
| do Ristigouche do | | 3,876 23 | |
| do Bedford do | | 3,768 31 | |
| do Sydney do | | 2,838 64 | |
| do Miramichi do | | 1,904 20 | |
| do St. John River do | | 1,823 57 | |
| do Fraser River do | | 4,202 61 | |
| General account..... | | 4,725 12 | |
| Total..... | | 39,126 91 | 40,000 00 |

This Expenditure by Provinces is sub-divided as follows—

| <i>Ontario.</i> | \$ cts. | \$ cts. |
|--|-----------|-----------|
| Salaries of officers..... | 9,832 36 | |
| Disbursements of officers..... | 4,433 96 | |
| Miscellaneous..... | 273 55 | |
| Total..... | | 14,539 87 |
| <i>Quebec.</i> | | |
| Salaries of officers..... | 6,991 57 | |
| Disbursements of officers..... | 2,516 83 | |
| Miscellaneous..... | 162 54 | |
| Total..... | | 9,670 94 |
| <i>Nova Scotia.</i> | | |
| Salaries of officers..... | 12,699 47 | |
| Disbursements of officers..... | 4,378 48 | |
| Miscellaneous..... | 317 29 | |
| Total..... | | 17,395 24 |
| <i>New Brunswick.</i> | | |
| Salaries of officers..... | 11,106 12 | |
| Disbursements of officers..... | 3,776 04 | |
| Miscellaneous..... | 32 79 | |
| Total..... | | 14,914 95 |
| <i>Prince Edward Island.</i> | | |
| Salaries of officers..... | 2,838 12 | |
| Disbursements of officers..... | 260 00 | |
| Miscellaneous..... | 15 09 | |
| Total..... | | 3,113 21 |
| <i>British Columbia.</i> | | |
| Salaries of officers..... | 1,932 90 | |
| Disbursements of officers..... | 1,070 60 | |
| Miscellaneous..... | 580 91 | |
| Total..... | | 3,634 41 |
| <i>Manitoba.</i> | | |
| Salaries of officers..... | 1,583 48 | |
| Disbursements of officers..... | 963 94 | |
| Miscellaneous..... | 57 28 | |
| Total..... | | 2,604 70 |
| Total..... | | 65,873 32 |
| <i>MISCELLANEOUS.</i> | | |
| Legal and incidental expenses..... | 906 96 | |
| Canadian fisheries exhibits..... | 792 90 | |
| Expenditure in connection with distribution of fishing bounties..... | 6,050 21 | |
| Herring delegation..... | 1,563 85 | |
| Total..... | | 9,313 92 |
| Grand Total..... | | 75,187 24 |

FISH BREEDING.

| | \$ | cts. | \$ | cts. |
|--------------------------------|-------|------|-------|------|
| <i>Newcastle Hatchery.</i> | | | | |
| Salaries..... | 1,407 | 76 | | |
| Miscellaneous expenditure..... | 4,175 | 90 | | |
| Total..... | | | 5,583 | 66 |
| <i>Sandwich Hatchery.</i> | | | | |
| Salaries..... | 900 | 00 | | |
| Miscellaneous expenditure..... | 3,011 | 95 | | |
| Total..... | | | 3,911 | 95 |
| <i>Ottawa Hatchery.</i> | | | | |
| Salaries..... | 282 | 00 | | |
| Miscellaneous expenditure..... | 1,716 | 70 | | |
| Total..... | | | 1,998 | 70 |
| <i>Tadoussac Hatchery.</i> | | | | |
| Salaries..... | 984 | 00 | | |
| Miscellaneous expenditure..... | 1,409 | 91 | | |
| Total..... | | | 2,393 | 91 |
| <i>Gaspé Hatchery.</i> | | | | |
| Salaries..... | 350 | 03 | | |
| Miscellaneous expenditure..... | 1,070 | 96 | | |
| Total..... | | | 1,420 | 99 |
| <i>Magog Hatchery.</i> | | | | |
| Salaries..... | 600 | 00 | | |
| Miscellaneous expenditure..... | 79 | 02 | | |
| Total..... | | | 679 | 02 |
| <i>Restigouche Hatchery.</i> | | | | |
| Salaries..... | 968 | 33 | | |
| Miscellaneous expenditure..... | 2,907 | 90 | | |
| Total..... | | | 3,876 | 23 |
| <i>Bedford Hatchery.</i> | | | | |
| Salaries..... | 1,300 | 00 | | |
| Miscellaneous expenditure..... | 2,468 | 31 | | |
| Total..... | | | 3,768 | 31 |
| <i>Sydney Hatchery.</i> | | | | |
| Salaries..... | 859 | 92 | | |
| Miscellaneous expenditure..... | 1,978 | 72 | | |
| Total..... | | | 2,838 | 64 |

FISH BREEDING—*Concluded.*

| <i>Miramichi Hatchery.</i> | | \$ cts. | \$ cts. |
|--|--|----------|-----------|
| Salaries | | 499 92 | |
| Miscellaneous expenditure | | 1,404 28 | |
| Total | | | 1,904 20 |
| <i>St. John River Hatchery.</i> | | | |
| Salaries | | 600 00 | |
| Miscellaneous expenditure | | 1,223 57 | |
| Total | | | 1,823 57 |
| <i>Fraser River Hatchery.</i> | | | |
| Salaries | | 1,950 00 | |
| Miscellaneous expenditure | | 2,252 61 | |
| Total | | | 4,202 61 |
| GENERAL ACCOUNT. | | | |
| Salaries of Superintendent and Clerk | | 2,350 26 | |
| Miscellaneous expenditure | | 2,374 86 | |
| Total | | | 4,725 12 |
| Total, Fish Breeding | | | 39,126 91 |

STATEMENT of Fisheries Revenue paid to the credit of the Receiver-General of
Canada, for the Fiscal Year ended 30th June, 1890.

| | \$ cts. | \$ cts. |
|--|-----------|-----------|
| Ontario— | | |
| Rents, license fees and fines | 23,666 96 | |
| Quebec— | | |
| Rents, license fees and fines | 5,409 81 | |
| Nova Scotia— | | |
| Fishery licenses and fines | 5,424 95 | |
| New Brunswick— | | |
| Rent, license fees and fines | 8,834 35 | |
| British Columbia— | | |
| Rent, license fees and fines | 11,367 50 | |
| Manitoba and North-West Territories— | | |
| Fishery licenses and fines | 794 00 | |
| Prince Edward Island— | | |
| Fishery licenses and fines | 302 88 | |
| Proceeds of sale of the United States' fishing schooner "David J. Adams" | 1,176 38 | |
| Total | | 56,976 83 |

THE STAFF.

The changes in and additions to the outside staff of the Department have, during the year, been as follows:—

ONTARIO.

Owing to the illness of Overseer Charles Wilkins, of Belleville, Mr. William Clark of that place was formally authorized, on 20th August, to look after Mr. Wilkin's District; and subsequently, on the death of Mr. Wilkins, Mr. Clark succeeded to the overseership on the 20th September, 1890.

The services of Mr. Samuel Frazer, Fishery Overseer at Midland, were, 21st January, 1890, dispensed with for inattention to duty.

On the 20th May, 1890, the services of Mr. George Cochrane, Fishery Overseer for the inland waters of Peterborough County, were dispensed with for inattention to duty, and Mr. George W. Fitzgerald, of Lakefield, was appointed in his place on the 4th November last.

Mr. Andrew Telfer, of Braeside, resigned the office of Fishery Overseer for Lake Des Chats and Bonnechère River.

By the appointment of Mr. Charles W. Evans, of Cayuga, Fishery Overseer for a portion of the Grand River, the district of Mr. W. A. McCrae, of Dunnville, was curtailed to the extent of that allotted to Mr. Evans, viz., from the division line between North Cayuga and Cansborough on the east, to Caledonia on the west.

Owing to the death of Overseer James Greer, of Warburton, and the removal from his district of Overseer H. W. Johnston, of Farmersville, in April and March respectively, the Charleston Lake Division was reorganized and the salaries of the two overseers divided between four new ones, viz.: Samuel Boddy, of Athens; David Edgar, of Lyndhurst; John Moorehead, of Lyndhurst; and James Greer (a son of the deceased overseer) of Warburton, who were appointed on the 31st May, 1890.

Mr. Albert E. Mills, of Smith's Falls, having resigned the fishery overseership of Rideau River and Canal in that vicinity, was replaced by a temporary guardian, whose services will be utilized from time to time as required.

Mr. Thomas McKibbin, of Eganville, Fishery Overseer for Mink Lake and Lake Dore, in the County of Renfrew, resigned on the 31st January, 1890.

Mr. Henry W. Gill, of Ufford, was, on the 1st July, 1890, appointed a Fishery Overseer for the Muskoka Lakes, &c., which position was rendered vacant by the death of Mr. A. H. Smith, which took place in April, 1888.

Mr. J. C. Bowen, of Marmora, was, on the 21st July, 1890, appointed a Fishery Overseer for Crow River and Lake, and Belmont Lake in the Counties of Hastings and Peterboro'.

Mr. William Gainforth, of Haliburton, was, on the 21st July, 1890, appointed Fishery Overseer for the inland waters of the East Riding of Peterboro', in place of Mr. John Dauncey, whose services were dispensed with on the 28th December, 1889, for inattention to duty.

On the 4th November, 1890, Mr. George Thompson, of Sudbury, in the District of Algoma, was appointed a Fishery Overseer for Ramsey's Lake and neighbouring waters.

Mr. David Breeze, of Peterboro', was, on the 4th November, 1890, appointed a Fishery Overseer for Otonabee River.

The following Indian Agents were, on the 8th of March, 1890, appointed Fishing Overseers, without pay:—

Messrs. R. J. N. Pither, Lake of the Woods, Rat Portage; James McCracken, Rainy River and Lake Seul, Couchiching; J. McIntyre, Eagle Lake, Fort Willam; J. P. Donelly, Nipigon River, District, Port Arthur.

Mr. J. K. McDonald, of Toronto, has also been appointed a Fishery Overseer, without pay, for Lake Kagewong, Manitoulin Island.

In view of the extensive fishing interests of Lake Superior, Lake Huron and Georgian Bay a redistribution of the fishery districts was carried out under authority of an Order in Council dated 22nd November, 1890.

Under the old arrangement this large division was sub-divided into eight sections each under the supervision of one Fishery Overseer. But many of these sub-divisions being of very extensive limits and great importance it was found expedient to curtail the fishery districts and increase the number of officers thus admitting of a stricter and more satisfactory inspection.

This reorganization provides 14 subdivisions and officers instead of the 8 as formerly, while the expenditure will be increased less than \$200.

With the exception of Mr. Samuel Fraser, of Midland, the services of the former officers have been retained in the reorganization and their districts reconstructed. The new officers, among whom Mr. Fraser's successor is included, are as follows:—

John Donaldson, Pt. Boucher; Charles Gauthier, Algoma Mills; Frank Prout, Bruce Mines; Robert Boyter, Gore Bay; Isaac Turner, Little Current; Owen McDonald, Mamainse Lake; Harry Wilson, Jackfish Bay.

QUEBEC.

Mr. Napoléon Latraverse, of Sorel, was, on the 1st July, 1890, appointed Fishery Overseer for the Sorel district, in consequence of the removal from the district of his predecessor, Mr. Félix Latraverse. Subsequently, Mr. Napoléon Latraverse resigned, and Mr. Narcisse Lavallée was, on the 4th November, 1890, appointed to the vacancy.

Mr. Treflé Marchessault, Fishery Overseer at Brome Lake, having resigned on 4th March, 1890, Mr. W. G. Greene, of Brome Lake, was, on the same date appointed to succeed him.

Owing to the death of Mr. Philip Vibert, which occurred in June, 1889, the Gaspé fishery district, formerly under his charge, was divided between Mr. George F. Annette, of Peninsula, Gaspé, and Henry Jones, of Little River West, who were appointed Fishery Overseers on the 1st May, 1890.

On the resignation of Mr. Pierre Bibeau, of St. François du Lac, Fishery Overseer for Lake St. Peter, fronting on the County of Yamaska, Mr. Denis Shooner was appointed in his place by Order in Council, 4th June. 1890.

Mr. Emiel Diesner, of Blanche, was, on 8th August, 1890, appointed a Fishery Overseer (without pay) for the inland waters of the Townships of Mulgrave and Lathbury, in the County of Ottawa.

Mr. Joseph Charbonneau, of St. Césaire, was appointed a Fishery Overseer for Yamaska River and tributaries on the 12th April, 1890.

NOVA SCOTIA.

In the County of Antigonish, Mr. Angus McDonald, Fishery Warden at Tracadie, died on the 1st October, 1890.

In the County of Cape Breton, Mr. James P. Burke, Fishery Overseer at Main-à-Dieu, was authorized to exchange positions with Mr. William Burke, of Mira Ferry, Lighthouse keeper, each assuming the other's duties.

In the County of Digby Mr. William Hanley, Fishery Overseer, was relieved of his duties in consequence of his ill-health, and replaced by Mr. James W. Cosseboom, of Rossway.

In the County of Guysboro', Mr. James Cook, Fishery Warden for Salmon River, died 1st May, 1890.

In Halifax County, Fishery Warden John McDonald, of Laurencetown, resigned on the 1st of February, 1890. On the 20th August, Mr. George Leslie, of Spry Bay, was appointed a fishery overseer, and on the 16th September his district and that of Overseer George Rawling's, of Musquodoboit Harbour, were re-arranged for convenience and efficiency.

In Inverness County, Mr. Neil McKay, Fishery Warden of S. W. Margaree River, died on 1st October, 1890.

Warden Murdoch McDougall, of Trout Brook, having left the limit his services were dispensed with.

The following changes took place in the County of Lunenburg :

The services of Fishery Wardens John Hutt, of Middle Gold River, George A. Nesbitt, of Petite River, and Eli Hebb, of Petite River, were dispensed with for inattention to duty, while Isaiah Besancon, of Middle River was relieved of his duties in consequence of advanced age.

In Pictou County a change in the system was effected by Order in Council of 22nd November, 1890, and the county divided into four fishery districts, each under the supervision of one overseer. The office of permanent local fishery warden, of which seventeen existed in the county, was abolished, and local guardians were substituted. These will be engaged from time to time under different overseers, as the requirements of the service demands and will be selected from the parties previously acting as fishery wardens, all of whom will probably be employed at certain periods of the year.

The fishery overseers for the county are as follows:—

Eastern Division.—Allan McPhee, of Avondale.

Western Division.—Robert Sutherland, of River John.

Central Division.—A. C. Pritchard, of New Glasgow.

Southern Division.—John D. McQueen, of Little Harbour.

In the County of Queen's, upon the resignation of Fishery Overseer S. T. N. Sellon, Mr. Thomas Day was appointed on 1st August, 1890, to the vacancy.

In Richmond County, Mr. John Proctor, Fishery Warden for River Inhabitants, died 1st October, 1890.

In the County of Victoria, Mr. Francis McGregor, Fishery Warden at Baddeck River, died 6th September, 1890.

And in Yarmouth County, Fishery Warden J. A. Hatfield, of Tusket, was, in January, promoted to the overseership of the county, rendered vacant by the resignation of Mr. Enos Gardner.

The services of Fishery Wardens William Kavanagh, of Tusket, and Eustace Nickerson, of Yarmouth, were on 7th June, 1890, dispensed with for neglect of duty, while the services of Wardens Wm. Thurston, of Chegogin River, and James Jeffreys, of Overton, being unnecessary, were dispensed with.

NEW BRUNSWICK.

In Charlotte County, Mr. Robert Johnston, Fishery Warden at Upper Falls, Magaguadavic River, died 21st June, 1890.

In the County of Gloucester, Mr. Joseph Poirier, Fishery Overseer for Bay Chaleurs District, resigned on 8th January, 1890. Mr. William Sisk, Fishery Warden at Pokeshaw, died, and was replaced by a special guardian, to be employed when required.

In Kent County the only change was the substitution of a special guardian in the place of Warden James L. Miller, of Kingston, who died in June, 1890.

A thorough reorganization of the staff of permanent officers in the County of Northumberland was effected by an Order in Council of 30th June, 1890. The county divided into five districts, each under the supervision of a Fishery Overseer; these are the only permanent officers in the county, it being proposed to engage special guardians at per diem wages, at such times and places as the requirements of the service demand.

The Fishery Overseers are as follows:—

Prudent Robichaud, Upper Neguac; J. G. Williston, Bay du Vin; Wm. Wyse, Chatham; Pat. Hogan, Newcastle; Thos. Parker, Derby.

PRINCE EDWARD ISLAND.

The only change in the County of Queen's was the dismissal of Warden John Loughrin of Orwell, who removed from his district, and the employment in his place of a special guardian, when his services were necessary.

In the County of Prince the overseership became vacant by the removal of Mr. Henry Clark from the neighbourhood of his district, and was filled by the promotion of Fishery Warden Patrick McBride, of Central Bedeque. Mr. Stanislaus P. Arseneault, of Egmont Bay, Fishery Warden, died 1st October, 1890.

The only changes occurring in the County of King's are: the death on the 1st April, 1890, of Warden Patrick McCullough, of Morel River, and the resignation in the same month of Warden John Conaghan, of Bay Fortune.

MANITOBA AND NORTH-WEST TERRITORIES.

In the above division the changes during the the year were: the appointment of Mr. John Foster, of Sifton, on 1st July, to the vacant fishery overseership of the Qu'Appelle District, rendered so by the resignation of Overseer Oliver T. Stone, and the appointment as fishery overseers (without pay) of the following Government Agents: C. L. Gouin, Crown Timber Agent, Calgary; S. B. Lucas, Indian Agent, Bear's Hills; R. S. McKenzie, Indian Agent, Duck Lake; and Robert Gunn, Wm. Toole, W. B. McLellan, Michael Fee, Winnipeg; A. E. Johnston, Edmonton; J. R. Thompson, Calgary; R. S. Cook, Prince Albert; H. J. Montgomery, Battleford, forest rangers.

FISH BREEDING.

Owing to the death of Mr. Philip Vibert, which occurred in 1889, the position of officer in charge of the Gaspé Government Fish Hatchery became vacant, and Mr. Henry Davis, the assistant, was promoted to the charge of the establishment 1st May, 1890.

FISHING BOUNTIES.

The payments made for this service are under the authority of an Act passed in 1882, intituled:—

“An Act to encourage the development of the Sea Fisheries and the building of Fishing vessels.”

This Act provides for the payment of a sum of \$150,000 annually, under regulations to be made from time to time by the Governor in Council.

The total number of fishing bounty claims received for the year 1889 was 17,119, against 16,027 in 1888, an increase of 1,092 claims for the year 1889. Of this number 161 were rejected for non-compliance with the regulations, and 227 held in abeyance for investigation.

The total number of claims paid during the year 1889 was 17,078, which includes 347 claims for 1888 held over for investigation, an increase of 1,079 as compared with the year 1888.

The total amount of bounties paid on the basis of \$1.50 per ton to vessels, and \$3 per man to boat fishermen, was \$158,526.54, an increase of \$8,341.01.

This excess over 1888 is due to a large increase in the number of claims and to the payment of others for 1888 held in abeyance for further enquiry.

The number of vessels which received bounty in 1889 was 833, with a tonnage of 32,716 tons, an increase of 6 vessels and a tonnage of 1,076 tons over 1888.

The number of boats on which bounty was paid was 16,230, and the number of fishermen who received bounty was 31,525, an increase of 1,468 boats and 3,269 fishermen, as compared with the previous year.

The total number of fishermen in vessels and boats who received bounty during the year 1889 was 38,343, as against 34,887 in 1888.

For details of payments to vessels and boats, see Appendix No. 2.

The following statement in connection with fishing bounty payments since the year 1882 shows:—

1. The year when the bounty was established.
2. The number of claims paid each year.
3. The amount of bounty paid each year.
4. The proportion of bounty per head, or the basis of payments for each year.
5. The highest and lowest bounty paid per head to vessel and boat fishermen, and the general average per head.
6. The total cost of distribution since the bounty was established.

STATISTICS *re* FISHING BOUNTY.

1. Year when bounty was established, 1882.
2. Number of claims per year, as follows:—

| | | | | |
|--------------|---------|--------------|---------|------------|
| In 1882..... | 11,972, | representing | 29,932 | fishermen. |
| 1883..... | 13,086 | do | 33,399 | do |
| 1884..... | 12,468 | do | 31,297 | do |
| 1885..... | 14,124 | do | 33,564 | do |
| 1886..... | 14,900 | do | 33,523 | do |
| 1887..... | 15,416 | do | 34,387 | do |
| 1888..... | 15,599 | do | 34,887 | do |
| 1889..... | 17,078 | do | 38,343 | do |
| Total..... | 114,638 | do | 269,302 | do |

3. Amount of bounty paid per year, as follows:—

| | | | |
|----------------------------------|----------------|--------------|--------------|
| In 1882..... | \$172,285 47 | In 1886..... | \$160,903 59 |
| 1883..... | 130,344 85 | 1887..... | 163,757 92 |
| 1884..... | 155,718 98 | 1888..... | 150,185 53 |
| 1885..... | 161,539 39 | 1889..... | 158,526 54 |
| Total amount of bounty paid..... | \$1,253,262 27 | | |

4. Proportion of bounty per head:—

In 1882 vessels were paid at the rate of \$2 per ton, one-half being payable to the owner and the other half to the crew.

Boats were paid on the basis of \$5 per man, one-fifth of which went to the owner and four-fifths to the men.

In 1883 the rate to vessels was \$2 per ton, and paid as in 1882. The basis of payment to boats was \$2.50 per man, one-fifth of which was paid to the owner and four-fifths to the men.

In 1884 vessels were \$2 per ton, as in 1882 and 1883; and owners of boats were paid as follows:—

| | |
|---|--------|
| On boats from 14 feet keel to 18 feet keel..... | \$1 00 |
| do 18 do 25 do | 1 50 |
| do 25 do upwards..... | 2 00 |

And boat fishermen \$3 each.

In 1885 vessels were paid \$2 per ton as in previous years. The rate to boats was the same as in 1884, with the admission of boats measuring 13 feet keel. Boat fishermen \$3 each.

In 1886 and 1887 the rate to vessels and boats remained the same as in 1885.

In 1888 vessels were paid at the rate of \$1.50 per ton, one-half to owner and one-half to crew, as formerly. Boats remained the same as in 1885-86-87, and boat fishermen \$3 each.

In 1889 the rate to vessels remained the same as in 1888. Owners of boats were paid \$1 per boat and boat fishermen \$3 per man.

The total number of vessels paid is 6,695 (with a tonnage of 255,197 tons). and the number of crew 53,568.

Average number of men, per vessel 8.

The total number of boats paid is 107,943 and boat fishermen 215,734. Average number of men per boat, 2.

5. The highest bounty paid per head to vessel fishermen was \$17.50, the lowest 83 cents.

The highest bounty paid per head to boat fishermen was \$4, the lowest being \$2.

The general average paid per head, \$4.65.

6. The total cost of distribution from 1882 to 1889, inclusive, is \$56,405.62, or an average of \$7,050 per year.

MANITOBA FISHERIES.

For some time past the necessity for affording additional protection to the fisheries of Lakes Winnipeg and Manitoba has been a subject of much discussion.

It was contended and persistently represented by persons claiming to have a knowledge of the subject that as the Indians of Manitoba and the adjoining Territory are to a large extent dependent on fish for food, the depletion of the fisheries of Lakes Winnipeg and Manitoba would be a serious matter, and would entail upon the Federal Government the necessity of providing them with food. It was also urged that as the water of Lake Winnipeg is shallow, and consequently afforded facilities for fishing at every available point, beside which the practice prevailed of setting nets at the mouths of rivers and inlets, when the fish were seeking these for the purpose of spawning, the fishing as a consequence soon become exhausted.

On the other hand, it was contended by the persons now engaged in fishing in this Lake that apprehensions as to the depletion of its fisheries were unfounded; that relatively, considering its area, Lake Winnipeg was less fished than many waters in the Province of Ontario, where no injurious result had followed the fishing, and that no danger of depletion existed so long as the laws and regulations enacted for the protection of fish were strictly enforced, and applied with equal stringency to Indians and white men.

It was further alleged that the injury to the whitefish fishery was due to the wasteful practices said to be carried on by the Indians, and employes of the Hudson's Bay Company, in destroying, when swarming the breeding ground, large quantities of fish for the purpose of feeding dogs, rather than to the nets used by white men.

Believing in the great importance of this industry, and aware of the interests that would be effected by a prohibition or greater restriction on the fishery than now in force, the Minister of Marine and Fisheries, with the concurrence of that the Superintendent General of Indian Affairs, instructed Mr. Samuel Wilmot, the Superintendent of Fish Culture, to proceed to Manitoba in July of this year, and discreetly examine into the condition of the fisheries in Lake Winnipeg generally, but taking special care to fully inform himself on the points mentioned in the voluminous reports and correspondence touching the subject in the Department of Indian Affairs and Fisheries.

Mr. Wilmot's report will be found at Appendix No. 3 to this report.

The following questions were submitted to Mr. Wilmot by you, previous to his departure. Mr. Wilmot's answers are now given at the end of each question.

"1. Whether there really exists a depletion of whitefish in the waters of Lake Winnipeg?"

There is a gradual but steady depletion of the whitefish product of Lake Winnipeg going on, from the effects of the present system of fishing.

"2. If so, in what waters and what are the causes of it?"

This depletion is experienced more particularly at the mouths of the larger rivers, and in the lower part of the lake, particularly in the Little Saskatchewan River, and St. Martin's Lake, caused by overfishing at improper times, notably at the mouth and bay of the Little Saskatchewan River. This course, if permitted to continue, and be allowed in other parts of the lake where similar conditions prevail, must assuredly hasten greater depletion and eventual ruination of the whitefish industry of Lake Winnipeg.

"3. What are the remedies?"

The remedies are, to reasonably restrict the present wholesale fishing now carried on by the fishing companies, by judicious regulations and to wholly prevent these companies, and others, from fishing in certain well-known localities where the whitefish congregate in great numbers prior to the close-time and preparatory to their breeding operations.

"4. Is the present close-season proper or sufficiently long for the efficient protection of whitefish, and if not, what dates would you recommend?"

The present close season (5th October to 30th November) is well chosen and should answer all purposes, if duly enforced.

"5. Should the permission granted Indians of fishing indiscriminately during the close-season be continued."

It would be better for the general interests of the Lake Winnipeg fisheries that the Indians should not be permitted to fish indiscriminately during the close season. However, public policy, it appears, prevents this being carried out.

"6. Should the killing of whitefish during the close season, for the purpose of feeding dogs, be tolerated, and if so, under what circumstances?"

This is a necessary sequence to the former. The dog is the Indian's provider and his "beast of burthen," so to speak, and food is a necessity for him as well as for the Indians. If the Indian is permitted to take whitefish for his purposes during the close season, the dog cannot be excepted. It would be found almost impossible to procure accurate data to show the quantity of whitefish required for feeding dogs.

"7. Should any and what waters be reserved for the exclusive use of Indians?"

Yes. Where there are no white settlers actually domiciled and carrying on agricultural or other fairly legitimate callings, the Indians should have the exclusive right of fishing in their reserves, and in all other waters which it may be considered expedient to set apart for them. Fish traders or other persons should not be allowed to fish in these waters under any pretence whatever.

"8. Should net fishing be curtailed, and to what extent?"

Net fishing should be limited in the licences granted to fishing companies, and all others who carry on commercial fishing—that is, as now known by the methods of freezing for export purposes. Each license for this description of fishing should state a maximum limit for the number of boats and length of net to be used; and "domestic licenses," that is the actual and *bona fide* settler or Indian, should also be limited to one boat, and a maximum length of net each.

"9. Is the present close season for sturgeon sufficiently long to ensure full protection to these fish?"

The close season for sturgeon should be from 15th of April to 15th of June, the license to state the locality in which fishing is to be permitted, the description, length and mesh of the net, and the character of boat to be used.

"10. Would it be desirable that Indians be supplied with large boats and longer nets, so as to enable them to fish in the deep parts of Lake Winnipeg, instead of on the shoals only, as at present?"

It would be undesirable that Indians should be supplied with large boats and longer nets, in order to fish in open or deeper parts of the lake. If the Indians desire to fish in waters outside their reserves, or other waters set apart for them, they place themselves in competition with other fishermen, and should therefore make their own provision for such outside fishing.

HERRING FISHING INDUSTRY.

It will be remembered there was submitted to Parliament at its last session, the report of the Special Commission appointed to enquire into "the most approved mode of catching, curing and packing herring. The first edition of this report fell far short of meeting the demand, and a second supply of 17,500 copies was printed, these have been distributed to the senators and members of Parliament representing constituencies interested in fishing, to boards of trade, merchants, fishermen, and others, where it was thought the report could be of service in bringing to the attention of those interested in the fishing industry the valuable information and suggestions which the report contained. Many satisfactory acknowledgments have been received, and it is earnestly hoped the result of the Commission's investigation will bring about an improved and profitable system of curing and packing herring in the Dominion. That this fishery has in the past been prosecuted in a very careless way, especially as regards curing and packing is generally admitted; the reason assigned therefor being that the low price the fish command in the home market does not warrant any expense in curing and packing that can be avoided, the fact being lost sight of, that this low price is largely due to the careless manner in which the herring are prepared for the home market or for export.

In the report of the Fishery Board for Scotland for 1888 it is stated the total quantity of cured herrings exported for that year amounted to the large number of 774,193 barrels, as against 865,911 barrels for 1887. An examination of the statistics shows that places out of Europe took 1,915 barrels more than in the former year, the great proportion of which were exported to America, chiefly in half barrels, quarter barrels, eighth barrels and sixteenth barrels. About 35,000 of the smallest size of these packages were shipped direct to America from Greenock, Leith and Aberdeen. These exports, however, form only a small portion of the Scottish herrings which went to that country, as a large quantity which had been exported to Hamburg was re-packed there into small kegs and re-shipped to America. Of the exports to Germany, Stettin alone took 292,290 barrels.

Of the winter herring fishery, it is stated the fluctuations are even greater than in the summer fishing; these may be largely attributable to the conditions of the weather, which have an important bearing on all the sea fisheries, but more particularly in the herring fishery. It has been observed for many years that during a long continuation of intense frost and snow, but with moderately calm weather in January and February, the principal months when the fishing is carried on, the herring shoals are found in the greatest abundance near the land, and therefore good takes are more readily captured than in open seasons, such as last year. As these herrings are not so rich in flavour as those taken in the summer (though of a larger size) very few are cured for exportation, nearly the whole of them being used in the country, either in a fresh state, lightly salted, or made into kippers or bloaters.

As regards hooping herring barrels, it is stated that up to three years ago it was only lawful to hoop such barrels with wooden hoops, but under a new regulation either wooden or iron hoops may now be used. The reason assigned for the change was the difficulty that frequently occurred in procuring wooden hoops, while an unlimited supply of iron was always available. The method of hooping partly with iron and partly with wood is, however, being generally adopted.

Regarding the size of barrels, it some times happens those of under size are used, prosecutions for this have been instituted and the herrings required to be repacked.

These extracts are quoted with a view of showing the enormous trade Scotland has secured in the export of herring, a considerable portion of which is stated to be with America. There is little doubt that this has been promoted by the admirable manner in which the herrings are cured, the care with which they are packed, and the convenient sized packages in which they are put up for export.

The conditions of the winter herring fishery in Canada which is principally carried on in the Bay of Fundy is in many respects similar to that of Scotland, and although the winter climate of Canada admits of a large trade in frozen herring for the purposes of bait, home consumption and export to a foreign market, the question suggests itself as to whether or not a large share of the United States' markets enjoyed by Scotland, might not with improved methods of curing and packing at other seasons of the year be secured to Canada.

Persons familiar with the winter herring fishery of the Dominion will readily understand how difficult it would be to induce the fishermen to undertake during this season a system of curing and packing, when owing to favourable conditions of the weather they can generally realise remunerative prices within a few hours of the catch and without the trouble of salting or curing. In view of this aspect of the winter trade, together with the fact that fish cannot be properly salted in cold weather, it will readily be seen that so long as the demand for frozen fish exists little or nothing is likely to be done at this season of the year in curing and packing for home consumption or export.

OPINIONS OF THE REPORT.

The following opinions of the report of Messrs. Gunn and McLeod will doubtless be gratifying to these gentlemen:—

Sir Thomas Brady, Chairman of the Board of Fishery Inspection for Ireland, says:—

I have read this report with great satisfaction.

The Hon. Doctor Prouse, of St. John's, Newfoundland, writes:—

I am very much obliged for the books sent. I think they are admirable, especially the Delegates' report on the herring fishery. The pamphlet has been very much read and appreciated here; it is practical and exceedingly valuable.

Many of the Boards of Trade also refer in complimentary terms to the Herring Report.

The law now relating to the inspection, chap. 99 of the Revised Statutes, will be found at Appendix No. 7.

When transmitting the Commissioner's report to the several Boards of Trade, and persons interested in the fishing business, the following circular letter was sent:—

OTTAWA, 15th April, 1890.

MY DEAR SIR,—I beg to forward, for the acceptance of your Board, a number of copies of the report of the delegates appointed to enquire into the herring industry

of Great Britain and Holland, with the object of improving this important industry in the Dominion.

I should feel obliged if your Board would favour me with its views on the present regulation, as contained in chap. 99 of the Revised Statutes of Canada, respecting the inspection of herring, and in regard to any modification of the existing inspection legislation, which, in the opinion of the Board, would tend to promote and improve the herring industry.

I would particularly refer the Board to that part of the report of the delegates, which deals with the inspection, classification and branding of herring; also the necessary improvements in regard to the barrels and small packages.

I would feel obliged for the views of your Board touching the necessity of further legislation upon this subject, or upon the question of improving the herring fishery generally.

Yours faithfully,

(Signed) CHARLES H. TUPPER.

A synopsis of the replies to this circular will be found of interest, as embodying the views of and suggestions from the representative bodies, and others to whom it was addressed, regarding the herring fishery.

The Halifax, Nova Scotia, Board of Trade, after conferring with a committee consisting of all the merchants in the city dealing in fish and fish oil, recommends:

That the Inspection Act of 1873, with amendments of 1876, with the following alterations and amendments, be made compulsory.

Each barrel not to contain more than 160 fish, the number to be stencilled on the head of the barrel.

Classification as follows:—

- (a.) No. 1. Herring 11 inches and upwards.
- (b.) No. 2. Herring under 11 and not less than 9.
- (c.) No. 3. Herring under 9 inches.

That a general supervisor of inspectors of pickled fish be appointed for Nova Scotia, with headquarters at Halifax.

That inspection be compulsory, and all packages that will not pass inspection be condemned; that parties offering such condemned packages for sale be subject to a penalty of 25 cents for each package so condemned, and that the bottoms of all barrels be full bound, as recommended by the Government Commissioners to Holland.

That section 19, chap. 99, be amended, to read after the words "to be inspected," in the second line as follows: excepting pickled fish, fish oils and empty fish barrels.

The St. John, New Brunswick, Board of Trade, at a meeting held 5th November, 1890, passed the following resolution:—

"That in the opinion of this Board, an Act for the compulsory inspection of pickled fish under competent responsible inspectors is much needed, and that the inspection of packages should be an essential part of any Inspection Bill."

The *Chambre du Commerce* of Montreal, in referring to the report of Messrs. Gunn and McLeod states:—

That for several years past the herring trade of the district of Montreal which should have augmented proportionally with the increased facilities of communication, has, on the contrary, greatly diminished, even evincing a retrograde movement during the past two years.

The reasons for this decline are held to be in the neglect given to the proper curing of the fish, and to frauds too often restored to, in general course of business respecting the quantity and quality of the fish, as well as to the bad condition of the barrels and then unsuitableness to retain the fish in good condition. These frauds finally disgusted the trade, while the result has often been pecuniary loss to the victims.

The Act of the Legislature which repealed the clause relating to compulsory inspection, however imperfect it may have proved, was a retrograde piece of business, the result of which is to-day apparent. Much better amend the law by abolishing inspection in large cities, where experience has proved that it could only be enforced with great difficulty and at a heavy cost, and enforce it where it should have been, on the spot where the fish are pickled, but on consideration that the Inspectors should attend to their duty, and not be Inspectors in name only—simply collecting fees attached to the situation—as has too often been the case.

The Board is of the opinion that the Government's policy, which is one of protection, should extend to the fisheries as well as other industries in the country by compelling foreign fish competing with our own to submit to the same inspection laws as are applied to the products of Canadian industry.

The decrease in the fish trade of this district is occasioned by the Newfoundland herring, as well as by the abolition of compulsory inspection, because purchasers being unable to discriminate between one kind of fish and the other reject both.

The Board desiring to afford its quota of assistance towards the resuscitation and improvement of a valuable and lucrative business, when pursued under the requisite conditions, and having taken communication of the report of the delegates, fully agrees with the recommendations as to an entire change of the present system of curing herring, and the adoption of that followed in Scotland, and in order to achieve this experts should be brought from Scotland, to instruct Canadian fishermen as to the system there pursued; also that barrels of a better class be provided and that the use of none but those regulated by law as suggested in the Commissioner's report be sanctioned.

The Board further specially recommends that the views of the Commissioners (page 74 of Report) as to inspection and brand, and those (at page 75) as to foreign herring of questionable quality 'being thrown on the Canadian market be adopted.

The Board concludes its valuable consideration of the report by acknowledging the wisdom of the Government in despatching the delegates to study so important an industry as the herring fishery, one that has already enriched Holland, Scotland and Norway, and expresses regret that instructions were not given the Commissioners to visit Norway for the purpose of enquiring into the modes of curing cod for the various markets of the world, adding that if the herring industry had some importance it is nothing compared with the cod fishery.

Montreal Board of Trade deeming the subject under consideration of much importance, referred the Herring Report to a sub-committee of the Board. The result of this reference was a unanimous report, embodying, among others, the following opinions and suggestions:—

That the herring industry depends greatly upon the demand for export, and this requires to be carefully cultivated not only by the curers of herring, but by legislative enactment, protecting alike the interests of the fishermen and the consumer; also; that a rigid inspection by reliable and competent inspectors is absolutely essential, both as regards fish and package, with fixed standards to put the industry upon a sound and permanent basis, such inspection being compulsory at the place of cure; that the packages should be substantial and well made, where possible of hardwood, in no case of fir or pine, and containing at least 200 pounds of herring, exclusive of salt. It is also deemed most desirable that all imported herring shall have been inspected in the country from which they came by Government inspectors, and that communication be had with the Governments of those countries to secure this.

That portion of the Delegates' report which deals with "Remedial Measures" commends itself specially to the judgment of the committee. They would, however, recommend a slight alteration in Para: 2a of report, making it read as follows:—

That there should be a Dominion Board of Fisheries, having jurisdiction, under the Department, over all matters of detail pertaining to the fishing industry of the Dominion, and which should appoint superintendents and inspectors in the different Provinces. The cost of this Board, it is considered, should be borne by the Federal Government, and that of inspection by the curer; the inspection fees should, however, be made as light as possible. It was noted with interest what had been accomplished by the Governments of Europe to enhance the value of their respective Fisheries, and the Dominion Government congratulated upon its endeavour to profit by their experience.

The concluding paragraph of this report is as follows:—

"Your committee begs to express its satisfaction with the admirable report on the herring industry herein referred to. No point of consequence appears to have escaped the attention of the gentlemen who compiled it, and the whole forms a most instructing and interesting volume. It is therefore recommended that the Government cause that report (or, better still, a good digest thereof) to be extensively circulated among the herring fishermen, and all connected with the herring industry, with a view to disseminating the very useful information contained in it."

The Charlottetown Board of Trade under date 8th October, 1890, acknowledges the receipt of the Department's communication of 15th April and 1st August, 1890, referring to the herring industry and asking for the views of the Board, and states the matter had been referred to a committee of the Board. No report has yet been received by the Department.

The council of the Quebec Board of Trade, after a careful perusal of the Herring Report, expresses the opinion that the trade in fish could be turned to a very valuable account, and that of the immense schools that frequent our coasts spring and autumn but a small quantity is taken. The use of fish as a fertiliser, which it is believed is carried on in some districts, is strongly deprecated. In connection with

the protection of herring and caplin the Board submits the opinion of a firm fully cognizant of the necessity for this in the interest of the codfishery. It is follows:—

“We consider that the herring and caplin need protection, for the wholesale destruction of these for manure must result in the withdrawal from the coast of those fishes. It is notorious that fish become scarce when wastefully destroyed; and they will desert a coast when largely persecuted, and here we may mention that the wholesale destruction of impregnative herring spawn, also used for manure purposes, is probably as real a hindrance to the continual supply as the other practices complained of viz., the destruction of the herring.”

The Board considers compulsory inspection a necessity, as by this means a merchantable value and character will be given to the fish, which without it is purely speculative, and sees no reason why an exception should be made in favour of Newfoundland.

It is thought packing herring in a fresh state in cans will not prove a success, in consequence of the large percentage of water which this fish contains. This is, however, overcome when it is subjected to salt, which does not remove the oil, but aids the fish in becoming hard and palatable.

In concluding the report, the Board desires to impress upon the Government the necessity for making the inspection of salted codfish (not dried) also compulsory.

The council of the Hamilton Board of Trade, in considering the Herring Report, adopted the following resolution:—

“That in the opinion of this Board of Trade it is desirable that thoroughly competent inspectors of fish should be appointed at convenient packing points in the Dominion, and an adaptation of the system adopted in Scotland for cleaning, curing, packing and branding should be arranged for, satisfactory to the purchasers and branders of fish. Until something of that kind is done, the brands here cannot command their fair value in our own or other outside markets where the packers are unknown.”

The Toronto Board of Trade is of the opinion that the inspection of herrings should be made compulsory, most thorough, and a guarantee of quality and the branding reliable. The barrels should be of a uniform size, and sufficiently strong to stand very rough handling in transportation. The opinion of the dealers in herring in Toronto is, that in the past the inspection has been resorted to as a shelter by the unscrupulous packer; and when he has succeeded in getting his fish branded, has refused to guarantee them up to what the inspection should warrant the purchaser in expecting to have supplied him as No. 1 inspected fish.

The Winnipeg Board of Trade has no suggestions to submit. Neither has the New-Westminster Board.

The Victoria, B.C., Board of Trade, in view of the small local demand, has no recommendations upon the subject.

The reports of Fisheries Inspectors Bertram, Pratt, Hackett, Hockin and Kinney, are printed as an Appendix No. 7 to this report. It will be observed that, with the exception of Inspector Kinney, all are in favour of compulsory inspection.

Fishery Overseer Kerr, of Hamilton, Ont., deals principally with the question of freshwater herring, and states that of late years very little salting or curing of freshwater herring has been done for exportation, most of the herring caught in the great lakes being shipped to the United States in a fresh or frozen state, as they realize a larger price in this condition than when cured. Overseer Kerr favours the use of hardwood barrels and a system of inspection.

Mr. Guptill, of Grand Manan, N.B., who has been in the fish business for forty years, considers that the decrease in the herring trade is due to the inferior quality of herring which are put on the market early, and bought by merchants unacquainted with the difference in quality, as well as to the fact that several classes of herring are really unfit for consumption. To remedy this, he suggests a restriction being placed upon the several classes of herring at certain periods of the year. He further suggests that it would be advisable to grant to fishermen engaged in the smoked herring business a bounty equal to the duty they paid on fish shipped to the United States.

Messrs. Parker, Eakins & Co., commission merchants, of Yarmouth, N.S., state: "The very interesting and valuable report of Messrs. Dunn and McLeod has recently come under our notice. We have read it with peculiar interest, because of our entire sympathy with the purpose of the investigation and report—that of devising and applying some remedy for the present wasteful and irregular method of curing and packing herrings. In common with everybody in this country who have handled herrings, we have suffered from the evils so fully set forth in the report, and we should be very glad to have an inspection law passed which would remedy some, at least, of the drawbacks to the successful conduct of the business."

Mr. Commissioner Gunn makes some suggestions in connection with the inland fisheries that are practical. He recommends that a test be made, by packing at the proper time a number of half barrels of salmon-trout, whitefish and herring in the pine packages at present in use, and with the same kind of salt as that now used in curing these fish. Then put the same kinds of fish, but carefully excluding all dead fish which may be found in the nets, using pine barrels, and the fish well roosed with salt before packing, but not washed. Repeat the same experiment on the same lines, using hardwood barrels. Cedar barrels might also be similarly tested, and the whole stored for twelve or eighteen months, and then tested.

It would appear the importance of protective measures and the introduction of improvements in the mode of curing and packing herring is not attracting the attention of Canada only. I find in the report of the Newfoundland Fisheries Commission for the year 1889 the following observations under the head of "Investigation of Herring Fishery:"—

"Last year the Commission was unable to accomplish much in the investigation of our herring fishery. That must be the work of the future. It is unnecessary to dwell on the importance of this fishery, and the need of protective measures, as well as the introduction of improvements in the mode of cure and packing for foreign markets. The Commission are persuaded that by due care the value of our herring fishery may be vastly increased."

I have drawn very copiously from the several reports, resolutions and letters having reference to the subject under consideration, with which the Department has been favoured from all parts of the Dominion. The object in this has been two-fold.

First, that in these extracts those interested in the practical aspect of the herring question might have in convenient form for reference the various opinions and suggestions that have been made to the Department from competent sources; and :

Secondly, that having this information, they may be enabled from a study of the question other than locally, to afford material aid in connection with the remedial measures it will at one be admitted are a necessity, not alone to promote what ought to be a valuable trade to Canada, but to rescue it from the injurious and deplorable condition into which it has been permitted to drift.

In the consideration of the measures, having this object in view, the fact must not be lost sight of that the fish trade of Canada has many aspects, and is carried on under different phases to that of any other country.

I have already referred to the winter fishery on the Bay of Fundy, Atlantic coast, and shown, while it can be carried on, as at present, and remunerative prices, realised for the total catch in a frozen state, fishermen or traders are not likely to embark in any new phase of this business where the process of curing, packing, seeking a market and the payment of commissions is to be substituted for spot cash. This same reasoning will hold good, not alone with all fish on the sea-board that can be exported fresh to the United States during the summer season, but also with reference to a large percentage of the catch of our inland waters, which, owing to the proximity of the United States, finds its way to a ready and remunerative market just as soon as the fish are available for export. I refer to this aspect of the fish trade of the Dominion to show that the curing and packing of our catch is not likely to at an early period assume large proportions, in view of the circumstances referred to.

Another fact, leading to a similar conclusion, is, that many of the herring, with which our shores abound in the spring and summer season, while quite marketable for bait or home consumption, are not of that quality which would justify an expenditure for curing and packing, to bring them into competition with the best grades of Scotch herring, and on this point the testimony of the inspector for Cape Breton will be found of interest. That a change can, with profitable results, be made in the mode of curing and packing some of the herring taken in the summer and fall on the Atlantic coast is certain, with others of them I doubt if the quality of the fish would justify any very great increased expenditure in putting them up. That the smaller packages consisting of kegs and of half barrels, say containing 50 to 25 pounds, of which the United States takes in a year the enormous quantity of packages, might, if our best herring are used, be packed with profit there is little doubt, but to induce this new departure in the herring business, it will be necessary to offer some incentive, and to this end it is worth consideration whether a bonus might not be paid on all herrings packed in hardwood packages, which come up to a certain standard of inspection equal to the difference of cost between the barrel at present used and that of the better package, which it is suggested in the Commissioner's report, should be adopted.

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It will readily be admitted after a perusal of the different reports from which I have quoted, that the opinion as to the necessity of an inspection law is practically unanimous, and without at present dealing with the details of an Inspection Act, I would suggest its being framed on the basis:

1st. That an inspection of all herring packed, or imported into Canada shall be compulsory.

2nd. That an Inspection Act should provide for at least three grades of fish.

3rd. That a prescribed size and quality for the different packages be adopted, and that each package shall contain a required weight of fish, irrespective of salt or brine.

4th. That all herring below grade No. 3, should be branded "Culls."

5th. That the inspectors should be appointed by the Federal Government.

6th. That the Act should provide for the payment by the packer or importer of a reasonable scale of fees.

While these are my views I am free to admit that in framing an Inspection Bill, it is clear much difference of opinion as to details among those interested will be found. I have, therefore, to suggest in view of the radical measures which a Bill should provide, that no legislation be promoted on this subject until next year, meanwhile the report of Messrs. Gunn and McLeod will have been more widely considered, the various opinions referred to in this report more thoroughly discussed, and legislation may then be so framed as to meet with general approval and support.

THE LOBSTER FISHING INDUSTRY.

This branch of our fishing industry has always been peculiarly difficult of regulation, because of the impracticability of maintaining a strict supervision over the operations of the numerous canning establishments situated on remote parts of the coast, and supplied by thousands of boats, operating many thousands of lobster traps. Over these operators only a partial supervision could be hoped for, without an army of officers distributed throughout the country at each factory. The facilities afforded for evading the law by immediately canning illegal lobsters are very great, and with the machinery at present provided and the funds at the disposal of the Department a thorough and perfect protection of this valuable fishery is not possible.

Numerous and diverse recommendations have been made for the improvement of the condition of this fishery. The Department accordingly caused to be referred to its chief officers throughout the districts where this fishing is prosecuted, a scheme for regulations in substitution for those now existing, upon which their opinions, after careful consultation with interested parties, were sought.

The proposals for consideration were as follows:—

1. There shall be a general close season for lobsters, extending from 15th July to 1st January, during which no lobsters shall be caught, canned, cured, preserved or had in possession, under penalty of \$50 for each offence and \$1 for each lobster so caught, &c., during the above named dates.

2. The Atlantic and Gulf coasts of Canada shall be divided into three districts, as follows:—

(a.) District No. 1 to comprise that part of the Atlantic Ocean coast extending from Cape Canso and following the coast line of the Bay of Fundy to the United States boundary line.

(b.) District No. 2 to extend from Cape Canso to Cape Jourimain; thence in a straight line to Cape Traverse pier; thence round Cape Bear and East Point to and along the north shore of Prince Edward Island to North Point.

(c.) District No. 3 to comprise the Province of Quebec, including Magdalen Islands, that portion of the shore of New Brunswick extending from Cape Jourimain northward, and that of Prince Edward Island southward, from North Point to Cape Traverse.

3. (a.) The special close season for District No. 1 shall be from 2nd July to 28th May, and during such time it shall be unlawful to can, cure or preserve lobsters within the limits of the above named district.

(b.) For District No. 2 the close season shall be from 10th July to 5th June, with the same restrictions as above with regard to canning, &c.

(c.) And for District No. 3 the close season shall be from 17th July to 12th June, with same restrictions as to canning, &c.

4. During the legal season for canning, curing or preserving, as detailed in the above paragraphs, cannors shall not be restricted as to any regulations with regard to the size of lobsters so canned, cured or preserved.

5. The possession, sale or use of "berried" lobsters shall be prohibited.

6. Neither shall any lobsters be caught under 9 inches in length, except as provided in paragraph 4.

On these propositions reports were received from the different officers, of which the following epitome is given:—

Mr. Edward Hackett, of Tignish, Inspector of Fisheries for the Province of Prince Edward Island, informs the Department that immediately upon receipt of the reference he communicated with a number of the leading lobster packers in the Province, with the object of obtaining their views on the points submitted for consideration. From these he received intimation that owing to the importance of the questions involved a meeting of the parties interested in the industry would be convened at Charlottetown, during which the propositions would be considered and the results made known. Mr. Hackett attended this meeting, and during a full discussion he found a feeling in favour of the existing regulations predominant.

He deals with the proposals as follows:—

1. General close season.
2. Division of the coasts into districts.
3. District close seasons.
4. Size limit.

1. The general close season, from 15th July to 1st January, he approves, because he considers it would be a great factor in the protection of the lobster, which is essentially a coast crustacean especially susceptible of over-fishing, while the proposed penalty would, in his opinion, be sufficient to prevent infractions of the regulation.

2. He does not consider climatic differences in the territory embraced sufficiently defined to warrant so much discrimination in the open against the close season, especially as the date of commencement of fishing is fixed.

Were it decided to prevent canning before 15th May he would not favour sectional divisions, as a uniform fishing season would suit all the Provinces. But the proposed divisional districts in the main would not be adapted to the requirements of the Province of Prince Edward Island.

With the exception of Egmont Bay, the influences surrounding the fishery on the coast of Prince Edward Island are nearly alike, and if no fishing were allowed until after 15th May they would be exactly alike, and would all be able to commence on that date. If any change be made he would suggest :

1. That (b.) District No. 2 should be from Cape Canso to Cape Jourimain, thence in a straight line to Sea Cow Head, in Prince Edward Island ; thence around Cape Bear and East Point to and along the north shore of Prince Edward Island to West Point.

2. From West Point to Sea Cow Head to be included in District No. 3 as proposed.

3. He is of opinion the district close seasons are entirely too short to admit of successful operations by packers and fishermen, a total closure for a term of years being preferable, the present season being as short as can be withstood without closing the factories.

4. The size limit he considers an essential factor to the preservation of the lobster fishery, and to abandon it would result in permanent injury to the industry.

Mr. Hackett concludes by giving it as his opinion that the present regulations, as they effect the industry in his Province, are well calculated to serve the end in view, for, while affording good protection to the lobster they also admit of a fairly successful prosecution of the industry.

Subsequent to this meeting, however, another was held at Charlottetown on the 30th December, 1890, which was largely attended by the canners and fishermen of the Province. The resolutions adopted on the proposals which differ from, or are not covered by the opinions above expressed, are as follows :—

That the present open season be continued ; the restrictions against "berried" and undersized lobsters removed, and hatching operations commenced ; the members of the meeting agreeing to pledge themselves to extend to the Department all possible assistance in furnishing spawn and protecting such localities as may be selected for the purpose of artificial propagation.

Mr. J. R. Kinney, of Yarmouth, Inspector of Fisheries for District No. 3, Nova Scotia, is in favour of increasing the present staff of officers, to properly protect this branch of the fishery in his district.

The law prescribing a size limit is easy of infraction, and there are cases where the buyers keep the small fish separately in pounds or cars until after the visit of the officer, of whose inspections the packers have means of informing themselves. Previous to receipt of proposal he had intended to recommend:—A reduction of the size limit to 9 inches;

That the penalty for possession of undersized or "berried" lobsters be \$1 for each undersized fish and \$5 for each "berried" lobster; and a general fine of \$20 or \$25;

Licensing of packing establishments at a nominal fee. Violation of regulations to be punished—1st offence, \$100 fine; 2nd offence, cancellation of license; although he says on broaching the question of licenses the packers were "horried at the bare idea."

Failing the adoption of his recommendations, as above, he remarks on the proposals submitted for his opinion:

1. General close time entirely meets his views.
2. Division of districts—acceptable.
3. Divisional close seasons: Inasmuch as the canning season in his district ranges from sixty to eighty days, he thinks thirty-five days an unfair equivalent; and he recommends that if packers are permitted to use fish regardless of size limit, they should be allowed an open season of forty-five days, which, he says, would meet the views of well-disposed packers.

Mr. A. C. Bertram, of North Sydney, Inspector of Fisheries for the Island of Cape Breton, District No. 1 Nova Scotia, reports he called a meeting of lobster packers, &c., which was held at North Sydney. Though the notification was widespread and general the attendance was not very large. Several of the Cape Breton factories were, however, represented at a similar meeting held at Halifax; and the views of some absentees were given by letter.

On the reading of the proposals a warm discussion of the different points was entered into, and comparisons made of the lobster fishery of Cape Breton with that of other portions of the Maritime Provinces, resulting in a consensus of opinion against the shortening of the existing canning season as ruinous to the industry, giving the packers and fishermen less than twenty-five days active operations, when taking into consideration the drawbacks of the districts through storms, scarcity of bait, &c., Fishermen would not fit out for so short a season. A resolution was adopted unanimously to the above effect, and vigorously protesting against the proposed measure.

During the discussions it was stated by Messrs. Baker, Grant, Curry, Philips and McLeod that lobsters were more plentiful in their districts during the past season than any season during the last eleven years, and that the meat was firmer and the shell fuller at the closing days of the last season than at the beginning of the season in June.

The meeting was unanimous against a fixed date for commencing operations, as the drift ice sometimes delayed operations until second week in June, while during favourable seasons they could begin on 20th May.

Another resolution was adopted asking to commence lobster fishing when the spring opened each year and close on the 10th August.

The discussion of this resolution elicited that fall fishing in that district would be detrimental to the lobster fishery, it being stated by Mr. Philips, of Scattari, and Mr. McLeod, of North Shore, that during the great gales of December, 1890, thousands of lobsters were washed ashore, and that most of them were full of spawn, thus proving they spawn until the month of January.

The present legal gauge of $9\frac{1}{2}$ inches was too large, 8 inches being considered sufficient. To secure large lobsters fishermen were apt to ignore the law regarding "berried" lobsters, and wash the spawn off.

A resolution was therefore adopted asking for 8 or $8\frac{1}{2}$ inches legal gauge, and an increase in the penalty for violation.

In connection with the above, it was advanced that a smaller run of lobsters were found in bays shoal waters than were met with in deeper waters, fishermen often coming across 6-inch lobsters, containing spawn, in opposition to the theory that they do not spawn under 8 inches in length.

On the question of licensing fishing territories, the prevalent opinion seemed to favour leasing to each factory owner the territory now fished by him, the argument being that the lessees would preserve their holdings and would not employ fishermen who were known to be violators of the laws.

It was also considered that this would have the effect of reducing the number of small operators, who are not very particular as to the size or quality of the article canned for the market.

On the whole, Mr. Bertram approved of the proposals submitted for his remarks, except as regards the time to be allowed for canning in the Cape Breton division.

Mr. R. A. Chapman, Moncton, Inspector of Fisheries for District No. 2, of New Brunswick, reports that a meeting which nearly all the important lobsters packers in his district, or their representatives, attended, was held in the town of Moncton, and in effect resolved as follows:—

The proposed regulation, after deducting the time lost through stormy weather would reduce the fishing season so much that it would virtually close a business which forms a great factor in the exports of the district, and affords employment to a large number of people.

That under the existing regulations the catches for the past two years had greatly exceeded that for 1888, showing an increase in the lobsters under the protection at present afforded.

That the Department be asked to fix the canning season in the district from the 1st May to 15th July.

That the Department be asked to remove the size limit, and the packers and fishermen would pledge themselves not to take small or "berried" lobsters, but would do all in their power to preserve and increase the lobster fishery, to which end they would recommend that all lobster traps hereafter made have slats not less than $1\frac{1}{4}$ inch apart.

And that incubators be established at one or more points, to test the practicability of increasing the fish by artificial means.

Mr. J. H. Pratt, of St. Andrews, Inspector of Fisheries for district No. 1, of New Brunswick, replies: That having instituted enquiries among those in his district interested in the lobster fishery, his views are as follows:—

1. The general close time which extends the open season fifteen days does not meet with much favour, as it seems to be the prevalent opinion that the present legal season is sufficiently long on the already overfished grounds for a reasonable return for the labour and capital invested.

3. (a) Restricts canning, &c., only between 28th May and 2nd July, and because the low price paid for small lobsters by canners does not repay the labour and expense, it meets with approval, while larger lobsters bring a high price. There being no canneries in his division, although several exist in the adjoining State of Maine, and much of the material for canning is taken on the New Brunswick side of the line and conveyed over by traders, therefore this section will not at present affect his division.

4. A disregard of the size limit during canning season he thinks would not work much harm to the fishery on account, of the extremely short season for operations.

5. The protection of "berried" lobsters is a measure which cannot be too strictly enforced.

6. The general size limit should be raised to $10\frac{1}{2}$ inches, as the fishermen find fish of this size more profitable.

Mr. R. Hockin, of Pictou, Inspector of Fisheries for District No. 2, of Nova Scotia, called a meeting at Halifax of packers and other interested parties. The attendance represented about half of the packers in his district, and the several propositions were considered.

Sections 1 and 2 were not considered important; but section 3, proposing special district close seasons, was unanimously voted inexpedient, because it was held that the fishery did not show such evidence of decline under the existing regulations as to call for such drastic measures, it being the general opinion that a strict enforcement of the present restrictions would afford sufficient protection to the lobster fishery.

The effect of the proposition would be to shorten the canning season one-half, thus rendering it impossible to profitably run the business, and result in closing the canneries. The capital invested and outlay necessary to operating would be equally as great for a short season as for a long one; and it is advanced that the lack of supply through limited catch would lose the position to the product which it has obtained in the markets.

A resolution was unanimously adopted in effect as follows:—

The lobster fishery would be better preserved by a strict observance of the fishing season than by regulating the size limit.

They are of opinion not more than 5 per cent of lobsters under regulation size are returned to the water by the fishermen. If not bought by packers, they are used in some way.

That an attempted enforcement of the size limit bears hardly upon those packers under immediate supervision, while a strict enforcement could only be effected by large expense.

That districts where the season regulation has been observed have exhibited evidence of increase in the fishery, notwithstanding the size limit has not been well observed.

Mr. Hockin is averse to the proposal to shorten the present canning season in his district. He says there is evidence that during the latter part of May and first part of June the fish and fishery are at their best, while after the first week in June deterioration begins, both in quality and quantity.

He quotes statistics showing the annual catch since 1876 up to 1889, revealing a good average catch for 1889, much in excess of that of 1888, while the returns for 1890 will exceed those of 1889. The catches of 1885 and 1886 were the largest, but there were more factories in operation and more people fishing than since. He therefore holds that in his district the fishery is on the increase.

He believes the reduction of the size limit to 9 inches would meet with the sympathy as well as the interest of the packers.

Mr. Hockin concludes by recommending the resolution of the meeting to the consideration of the Department, and records his belief that the adoption of the proposed regulations is inexpedient and unnecessary in his division.

Mr. W. Wakeham, of Gaspé Basin, Inspector of Fisheries, for the Gulf division, reports that owing to the isolated and scattered position of many sections of his inspectorate it was impossible to get together at one time or place a large number of those interested in the lobster industry; but he took every opportunity of informing himself of the views of the canners and others he could reach. This division is included in District No. 3 of the proposals, a discussion of which elicited the following information:—

There being no export trade in live lobsters, and the product of the fishery being used only for canning and home consumption, he recommends the general close season to cover canning, curing, &c., and to be from 1st July to 15th May, although some of the canners would like to fish until 7th or 8th July.

He would recommend that lobsters be allowed to be taken at any time for domestic use, provided they were not under legal size, or "berried." The actual number would be very insignificant, and be consumed principally by tourists and the actual residents, who are but few.

The majority of canners approve the proposal to disregard size limit, as they find it impossible to comply with the law as it now stands in that respect. While anxious to get from fishermen as large lobsters as possible, rapid handling must necessarily pass lobsters verging on the legal size without actual measurement, and reliable canners estimate that 10 per cent. of undersized lobsters are so passed, though they try to comply with the law.

There is a difference of opinion as to the extent of shortening the canning season, which would be a fair equivalent for the withdrawal of the size limit. The proposal shortens it from fifty-three to thirty-six days. The proposed open season

would not suit his division, as the lobster fishing must begin with the opening of navigation. Therefore, any shortening must be at the end and not at the beginning of the season.

In 1887 lobster fishing began 30th May; in 1888, 25th May; in 1889, 23rd May; in 1890, 16th May.

Mr. Wakeham goes on to say that both as regards quality and quantity the fishery is at its best during the first ten days of June, or before the season would open if the proposal were adopted.

Mr. Wakeham is of opinion that there can be no question as to the correctness of the dates proposed by him—15th May to 1st July—if the restriction of size limit is removed, and any complaints which might afterwards arise would be only in the direction of seeking a few days longer in July say to 6th or 8th.

Messrs. Mitchell, Hitchens & Co., of Louisburg, dealers in canned and fresh fish, say that the propositions submitted fully meet with their views, with the exception that the time allowed for canning in their district is too short, and they recommend from 1st June to 15th July, which they consider would satisfy reasonable packers, while it would scarcely pay them to fit out for a shorter season. They strongly favour the change of size limit to 9 inches, as well as the protection of "berried" lobsters.

The 9½-inch standard has been ruinous to them, and the only packers who have done anything this year are those who succeeded in evading the law. The 9-inch limit is sufficient for all protective purposes.

Mr. J. M. Forrest, of Antigonish, Nova Scotia, having made a tour of the Atlantic coast of Halifax and Guysboro' Counties, with a view to ascertaining to what extent illegal lobster packing had been carried on, says that one of the principal difficulties is the fall packing, which, if not checked, will have a bad effect upon the fishery. This illicit packing, he says, is not carried on by the responsible business men in the factories, but by fishermen in huts and camps in the bush, who are actually packing thousands of cases in September, October and November, which the regular operators say greatly decreases their spring supply.

The strict enforcement of the 9½-inch limit would virtually close the factories in Nova Scotia and Prince Edward Island. There are more lobsters to be met with 9 inches in length than any other size, and he advocates a reduction in the legal limit to 9 inches.

He says the proprietors of existing factories think that the fall packing by irresponsible parties could be checked if they were to pay a license fee of \$150 per annum for each factory, each having a registered trade mark, and all canned goods not bearing a trade-mark to be seized.

From the views expressed as above, it will be observed that with the exception of some local changes in the dates during which fishing is to be allowed for canning, and a difference of opinion as to the practical good of a size limit, there appears to be a strong tendency in favour of the existing regulations, and it is even held that a marked improvement in the fishery is noticeable in those districts where something like a reasonable enforcement of the law has been maintained.

There also appears to be unity in the opinion that the proposed shortening of the open season in the respective districts is in each case too great to form a fair equivalent for the proposed privilege of disregarding the size limit. This view of the matter is shared alike by the interested parties and the fishery officers.

The question regarding the length of lobsters allowed to be taken is one of great importance both as to its probable effect upon the fishery if disregarded, and upon the canning industry if it could be strictly enforced. And upon this point I find, as might be expected, the unanimous voice of the packers in favour of its abolition.

On the part of some of the officers there is a leaning of opinion in that direction, or at least towards a reduction of the existing standard; Inspector Hackett, of Prince Edward Island, however, advocating its retention as a necessary remedial measure.

It has been attempted to show that the existence of a smaller run of lobsters nearer shore having been found in large quantities as small as 8 inches in length, a large proportion of which were "berried" (and which were spawning as late as December), proved that lobsters matured and reproduced their species at an age and size hitherto unaccepted, and that this fact clearly combatted the necessity for a size limit beyond 8 or $8\frac{1}{2}$ inches.

On this point will be found, at page 12 of the Annual Report of the Newfoundland Fisheries Commission for the year 1889, the following statement:

"In the course of his investigations Mr. Nielsen ascertained a most important fact in regard to the lobsters in our waters. He discovered that they have two different times of spawning. The larger run of lobsters spawn from the middle of July till the middle of August. The smaller and middle-size lobsters spawn in the latter part of October and the month of November. It is needless to point out that this discovery will have a very important bearing on the legislative enactments which may be found necessary for the protection of our valuable lobster fishery."

It would seem that wherever the protection of the lobster has engaged the attention of Governments and Commissions, the size limit has been considered expedient, and in some case all that was necessary.

In their "Report on the Crab and Lobster Fisheries of England and Wales, 1877," Messrs. Frank Buckland and S. Walpole recommended 8 inches, except in Sussex County, where they placed it at 7 inches. In Scotland they recommended 8 inches. Considering the difference in size of our lobsters, 8 inches in English waters would be equivalent to about $10\frac{1}{2}$ in our waters.

Messrs. John A. Blake, Joseph Hayes and Thomas F. Brady, in a similar report for Ireland, recommended 9 inches "from the end of the tail to the tip of the beak."

The data available on the lobster fishery of Norway, as applicable to its conditions in Canada, is meagre. I find, however, in a paper by M. Friele on the fisheries of Norway, in 1877, a short reference to that fishery, in which it is said: "Anybody is allowed to take lobsters, except from 15th July to 15th October, which constitutes a close time, during which this fishery is prohibited." From this it would appear the fishery is free, except during the prohibited season.

And in a report for 1875, by Professor G. O. Sars, to the Department of the Interior, on investigations of salt water fisheries, it is observed that on the question

of framing laws for the better protection of this fishery he considers, the principle should be much the same as that which forms all similar protective measures—that is, an attempt to secure to its propagation as little interference as possible. If the enormous quantity of ova which an adult female lobster is capable of producing were allowed to develop into young fish the result would amply compensate for the annual catch. The natural supposition was that a decrease in the quantity of lobsters was due to the capture of adult females during the breeding season.

He believed that if the lobster was thoroughly protected during the months of July and August there would be some guarantee at least of the production of sufficient young ones to make up for the take of the fishery during the other months.

And in the United States, where improvident fishing almost exterminated the fishery, the size limit is placed at 10½ inches, which regulation is unflinchingly enforced.

While in Newfoundland, as will be seen from the report above referred to, although the lobster packing industry is one of comparatively recent establishment, and its prosecution has not yet had sufficient time to work any lasting destruction to the fishery, yet in localities where it is vigorously pushed a rapid diminution in the abundance and size of the lobsters is noticeable.

This, coupled with the observance of a marked decline in the production of the Canadian lobster fishery, has induced the Newfoundland authorities to take early measures to provide against the destruction, by improvident fishing, of that valuable industry around the coasts of that Island, and at the same time to assist in keeping up the supply by means of artificial hatching on a large scale.

At page 16 it is stated: "The lobster being a local fish, in the strictest sense of the term, never migrates far from its deep-water haunts, but comes in annually to pretty nearly the same place on the shore. Hence, by over-fishing, or taking immature fish that have never spawned, any given locality may be speedily depleted and ruined as a lobster ground. The keeping up of the stock by artificial breeding and stringent protective measures are thus seen to be paramount importance, if the lobster fishery is to be saved from destruction."

Mr. Nielsen, the Superintendent of Fisheries, after a careful investigation, recommends that the close season in Fortune and Placentia Bays be fixed from 15th July till 20th September, and in Trinity and Conception Bays from 15th July to 15th September. He considers an earlier close time injurious to those engaged in the packing industry, and in the event of extending the artificial hatching to the various bays he thought the close season could be shortened a few days without injury to the fishery.

Returning to the size limit, Mr Nielsen places great importance on prohibiting the catch of immature lobsters, which had not exercised their functions of propagation. "Berried" lobsters were seldom found under 8 inches, and more frequently over than under 10 inches. As the size varies in different localities—even in the same bay, a fixed limit could not be applicable to the whole Island. He therefore recommended "that a law be passed prohibiting the taking or packing of lobsters in Fortune Bay and at Moody Island, Placentia Bay, below 9 inches in length; and that no lobsters in any other part of Placentia Bay, or in Trinity or Conception

Bays, be taken or packed below 10 inches in length, reckoned from the tip of the rostrum, or frontal projection, to the end of the telson, or tail, the hairs not included."

The Commission, while concurring generally in the views expressed by Mr Nielsen, considered it desirable that the present regulation size (10 inches) should be general, with the exception of Fortune Bay, where a 9 inch standard seemed necessary.

The question of limiting the lobster factories was touched upon by Mr Neilson, who, though he deprecated generally the idea of restricting competition in any industry, so long as a permanent injury to that industry was not threatened, was forced to the opinion that if the factories continued multiplying, as they had for the past few years, the fishery would not be equal to the drain upon it, and it might be necessary to obtain legislation to interfere in this direction to save the fishery.

The Commission proposed that each factory, under certain penalties be required to take out a *free* license, to which conditions be attached, the violation of which were punishable by penalties provided.

The different views as to the legal fishing season may be summarized as follows:—

Present Canadian open season—(Canning):—

Atlantic coast, from Canso westward, including Bay Fundy coast to United States boundary, 1st January to 30th June. Elsewhere, 1st January to 14th July.

Recommended by Inspector Kinney.—Forty-five days fishing.

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| do | do | Bertram.—From about 15th or 20th May to 10th August. |
| do | do | Hackett.—Adherence to present regulations. |
| do | do | Chapman.—1st May to 15th July. |
| do | do | Pratt.—Immaterial; no canning in his district. |
| do | do | Hockin.—Adherence to present regulations. |
| do | do | Wakeham.—15th May to 1st July. |
| do | Messrs. Mitchell, Hitchins & Co. (Cape Breton).—1st June to 15th July. | |
| do | Superintendent Nielsen (Newfoundland).—Placentia and Fortune Bays, 21st September to 14th July. | |
| do | Superintendent Nielsen (Newfoundland).—Trinity and Conception Bays, 15th September to 14th July. | |

Proposals submitted for opinions:—

| | |
|--------------------------------------|--|
| District No. 1.—29th May to 1st July | } With a general close season from 15th July to 1st January. |
| do 2.—6th June to 9th July | |
| do 3.—13th June to 16th July | |

It will be observed that in all the different propositions and regulations the Newfoundland law is the only one which countenances fall packing, and in the report of the Newfoundland Fisheries Commission it is stated that Messrs. Mitchell, Hitchins & Company, of Nova Scotia, had urged upon them the prohibition of fall

packing, as it did not pay, and the lobsters were unfit for food. The Commission reports, however, that Mr. Nielsen holds a different view. He states that after 20th September the meat is in good condition as an article of food, though the new shell formed after shedding is not perfectly filled out. If fall fishing were prohibited a great number of poor fishermen would be unable to earn a livelihood. When stormy weather prevents cod fishing, lobster fishing can be prosecuted in the arms and bays, enabling them to make some provision for the winter. He considers little injury can result from resuming fishing after 15th and 20th September, especially if the ova be collected and artificially hatched.

The Commission saw no reason for stopping fall fishing.

In view of the success which attended the experimental operations in the artificial hatching of lobsters, especially in Newfoundland, and being anxious to afford all possible assistance in the direction of keeping the supply equal to the tremendous drain upon this fishery, the necessary Parliament appropriation was procured for the establishment of a lobster hatchery, were the success, or otherwise, of hatching operations could be demonstrated.

The Superintendent of Fish Culture, under your direction, visited Newfoundland and made personal enquiries into the results of the work carried on there by Superintendent Nielsen. Mr. Wilmot's observations were such as satisfied him of the feasibility of the work and also its practicability in Canada.

A site has been selected on the Northumberland Strait, coast of Nova Scotia, the surroundings of which appear to peculiarly adapt it to the requirements of the operations, both as regards its fitness for the work and its convenient location for securing a supply of parent fish from which to gather the necessary eggs.

Arrangements for the construction and the equipment of a first-class lobster hatchery are rapidly progressing, and it is expected to have it in full working order for the approaching season.

Meanwhile, the following reference to the Report of the Newfoundland Commission may be made on this branch of the subject.

Great satisfaction was expressed at being able to announce the most successful experiments at Dildo Hatchery, which work was considered second in importance to cod propagation, and which is looked upon as a compensation for any disappointment experienced in connection with the propagation of cod. It is said :

"While carrying out a vigorous search for cod ova, Mr. Nielsen decided on commencing the hatching of lobsters. Spawn was at first obtained at a small lobster factory in Green's Harbour, Trinity Bay. The first supply was brought to the hatchery on the 19th July and these were hatched by the 24th July. The work went steadily on and a number were hatched almost every day. The factories in Green's Harbour being insufficient to supply the number of eggs that could be handled, additional supplies of spawn were brought from Mr. Otis's factory in Long Harbour, Placentia Bay, also from Mr. Coffin's factory. During the month of August spawning lobsters became scarce, and after the beginning of September none but green eggs, which would require a couple of months to hatch, could be obtained. The lobsters hatched were healthy and lively; and as they were sufficiently matured to take care

of themselves, they were set free in various places around the head of Trinity Bay. Without going into details, it will be sufficient to state that four millions and thirty nine thousand lobster eggs were hatched during the season, and planted in the waters of the bay, as described. This gratifying measure of success was obtained, notwithstanding serious difficulties which had to be encountered. The apparatus of the hatchery, having been adapted for cod ova, was not well fitted for lobster hatching, so that not nearly as many eggs could be treated as in a proper lobster apparatus. Further, many bad and injured eggs were brought to the hatchery, owing to the rough treatment they often received from the lobster catchers while carrying them to the factories. No better source of supply, however, was available.

"The successful hatching of lobsters awakened much interest, and a large number of visitors were attracted to the hatchery to see the young fry vigorously disporting themselves in the hatchery boxes.

"The sight had a marked effect in removing the prejudices against the hatchery which many persons entertained, and in strengthening their belief in the possibility of hatching cod, which had been hitherto doubted. A few are still unable to divest themselves of the idea that the artificial propagation of fish is an impious interference with the order of Providence. In every age of the world, all new ideas and innovations on established usages have been regarded at first with similar distrust and suspicions, and have had a like opposition to overcome."

The Commission was impressed with the importance of the initiation of successful lobster hatching as they considered a means was thus provided which, if properly operated, would prove a safeguard to the lobster fishery of the Island against the injury and ruin which had overtaken that industry in other countries. They believed that by this means the stock may not only be maintained, but greatly increased, while at the same time it rendered possible the introduction of this valuable crustacean into waters where at present they are not found.

They point out that the operations have been doubly valuable, because the eggs which were hatched by Mr. Nielsen and those which are proposed to be used by him are taken from the canneries, where hitherto they have gone to waste, thus neutralizing, to a great extent, the damage done in former years to the fishery by the destruction of "berried" lobsters, and they consider it would be difficult to over-estimate the value of the enterprise to the fishing interest of the colony.

In connection with this industry, the authorities of Newfoundland have been copiously referred to in the foregoing pages in view of the fact that it is a matter of considerable importance to the trade that the protective legislation of Canada and Newfoundland should be as much as possible assimilated.

At Appendix No. 8 will be found answers from Fishery Officers to a series of questions submitted by the Department affecting this fishery.

The information elicited would appear to largely justify the existing regulations, and with their rigid enforcement—it being a noticeable fact that some of the cannerymen are already bearing testimony to the efficacy of these regulations—the future of the lobster fishery looking to its increased productiveness is assured.

To remove all restrictions as to size, or in the case of lobsters taken for the purpose of canning, as has been suggested, leaving this regulation in operation as regards lobsters taken for export fresh only, is, in my opinion, most objectionable.

The proposed reduction of the legal size to nine inches, together with the operations of the hatchery now in course of construction, and the establishment of a system of floating incubators, so successfully adopted in Newfoundland, should remove all opposition to the existing regulations.

THE FISHERIES PROTECTION SERVICE.

It is gratifying to again be able to report that the operations of this service during the season have been of a very satisfactory character.

The vessels forming the fleet were the Government steamers "Acadia," "La Canadienne," "Stanley," and the chartered steam yacht "Dream," together with the Government schooner "Vigilant," and the chartered schooners "Connaught" and "Critic." For a short period in the fall the Customs steam yacht "Argus," stationed at Halifax, was also employed.

The fleet was again under the immediate direction of Lieut. Andrew R. Gordon, R.N., on board the SS. "Acadia."

This officer's report, which forms Part II of this report, deals minutely with the details of the season's operations, and makes some suggestions as to the mackerel and lobster fisheries of much importance. His views will be studied with not a little interest by those immediately interested in these fisheries.

The cost of the service for the fiscal year 1889-90 was \$64,434.66, and for the calendar year ending 31st December, 1890, \$70,707.50, as against \$69,693.82 for the fiscal year 1888-89, and \$69,045.89 for the calendar year ended 31st December, 1889.

In this expenditure is, however, included that of the protection steam yacht "Cruiser," amounting to \$4,509.25, one-half of which (\$2,254.63) is paid, by arrangement, by the Customs Department. This vessel was commissioned on 15th September, under command of Captain Edward Dunn, for the protection of the fisheries of the Georgian Bay and Lake Huron.

The "Cruiser" remained in commission until the 9th December, and rendered most satisfactory service, especially during the month of November, which is the close time for salmon-trout and whitefish.

A vigorous protection of the fisheries of these extensive waters has become a pressing necessity. That a larger and more powerful steamer would accomplish still better work there is now no doubt. The question of providing such a vessel is engaging attention.

The only seizure effected during the past season was the United States' fishing schooner "Davy Crockett," Nelson Cantello, Master, which vessel was seized at Souris, P.E.I., on the 25th September, for fishing from dories within the three-mile limit. The "Davy Crockett" was taken to Charlottetown and proceedings instituted in the Admiralty Court. Pending the result of these proceedings, this vessel was released under a bond for \$2,500, this having been furnished to the satisfaction of the court.

The United States' fishing schooner "Nellie Irving" was detained by the Collector at Souris for an alleged infraction of the Customs regulations, but was subsequently released.

The period of two years for which the *modus vivendi* of the Treaty of Washington Act of 1888, provided for the issue of licenses to United States fishing vessels, having expired on the 14th of February, 1890, Parliament passed an Act intitled "An Act respecting fishing vessels of the United States of America," under which the system of licenses to foreign fishing vessels was authorized, the conditions being that upon the payment of \$1.50 per ton such vessels were permitted to enter Canadian ports for the purchase of bait, ice, seines, lines, and all other supplies and outfits, and the transmission of catch and shipping of crews.

Although an arrangement had existed with the Government of Newfoundland that the licenses of fishing vessels issued under the *modus vivendi* of the Treaty of Washington by Canada and Newfoundland should be mutually recognized, this arrangement was not continued on the part of Newfoundland, owing, it is alleged, to the fact that United States' fishing vessels had been found disposing of the bait they had obtained, presumably for fishing on the Banks, to French fishermen, thus rendering largely futile the operations of the Newfoundland Bait Act.

That United States' fishing vessels to a large extent took advantage of the renewed privilege is shown by the following figures:—

| | Vessels. | Tonnage. | Amount Collected. |
|-----------|----------|----------|-------------------|
| 1888..... | 36 | 2,554 | \$ 3,831 00 |
| 1889..... | 78 | 6,393 | 9,589 50 |
| 1890..... | 119 | 9,641 | 14,461 50 |

The list of fishing vessels to which licenses were issued during 1890 is printed in Part II of this report.

On the part of owners and masters, the advantages these licenses were to the vessels obtaining them was freely admitted; and it is also very satisfactory to be able to state that in the cases of vessels which did not take licenses a generally willing compliance with their lessened privileges was observed, the result of which has been to establish a continuance of the amicable relations between the officers of the protection fleet and the masters of fishing vessels, to which I was enabled to refer in my last year's report.

FISHERY INTELLIGENCE BUREAU.

This service, which was inaugurated in a very small way in the season of 1889, was continued during the season of 1890 on a somewhat extended scale, at a cost of \$1,330.04. Stations were established at forty-four different points on the coast, and the results of the daily reports communicated to the head office at Halifax, where they were collated and transmitted by telegraph to the principal fishing stations and business centres in the Maritime Provinces.

The service has been very generally appreciated by the masters of fishing vessels and those interested in the fishing business.

Some suggestions are made in Lieutenant Gordon's report, looking to an increase in its usefulness, which are worthy of attention, and would not very materially

increase the cost. The procuring of fresh bait is so absolutely necessary to the successful prosecution of the deep-sea fishery that any information which facilitates this being done is a boon to fishermen, the full value of which can only be estimated by the results of active work on the part of a vessel and crew on the one hand, and enforced idleness on the other.

Attention is directed to the question of pilot dues exacted from fishing vessels, referred to in Leut. Gordon's Report. There can be no doubt but that the intention has been to relieve vessels of this class of all local dues from which they could reasonably claim exemption, and that pilotage dues are one of the chief of these will not be questioned.

The principle being admitted, the Pilotage Regulations should be so amended as to exempt all vessels absolutely engaged in fishing up to 250 tons that being the limit to which the Pilotage Act 59 Vic. chap. 86, authorizes local authorities to exempt fishing vessels from the payment of these dues.

Appended is a statement of the cost of this service for the calendar year of 1890.

STATEMENT of Expenditure in connection with Fisheries Protection Service for the
Year ended 31st December, 1890.

| Service. | Amount. | Total. |
|--------------------------------|----------|-----------|
| <i>Str. "Acadia."</i> | \$ cts. | \$ cts. |
| Wages of officers and men..... | 7,495 76 | |
| Provisions..... | 2,274 19 | |
| Fuel..... | 1,385 74 | |
| Repairs..... | 2,497 79 | |
| Miscellaneous expenditure..... | 3,207 38 | 16,860 81 |
| <i>Str. "La Canadienne."</i> | | |
| Wages of officers and men..... | 6,628 54 | |
| Provisions..... | 2,083 07 | |
| Fuel..... | 923 31 | |
| Repairs..... | 2,520 39 | |
| Miscellaneous expenditure..... | 2,846 60 | 15,001 91 |
| <i>Str. "Stanley."</i> | | |
| Wages of officers and men..... | 4,944 97 | |
| Provisions..... | 2,517 22 | |
| Fuel..... | 2,641 18 | |
| Miscellaneous expenditure..... | 1,597 44 | 11,700 81 |
| <i>Str. "Cruiser."</i> | | |
| Wages of officers and men..... | 1,651 13 | |
| Provisions..... | 303 12 | |
| Fuel..... | 429 49 | |
| Repairs..... | 1,612 87 | |
| Miscellaneous expenditure..... | 512 64 | 4,500 25 |
| <i>Str. "Dream."</i> | | |
| Wages of officers and men..... | 2,812 82 | |
| Provisions..... | 822 14 | |
| Fuel..... | 637 09 | |
| Charter, 11 months..... | 3,300 00 | |
| Miscellaneous expenditure..... | 306 33 | 7,878 38 |

STATEMENT of Expenditure in connection with Fisheries Protection Service for the
Year ended 31st December, 1890—Continued.

| Service. | Amount. | Total. |
|--|----------|------------------|
| <i>Sch. "Vigilant."</i> | \$ cts. | \$ cts. |
| Wages of officers and men..... | 3,083 07 | |
| Provisions..... | 1,012 07 | |
| Repairs..... | 148 88 | |
| Miscellaneous expenditure | 889 81 | |
| | | 5,083 83 |
| <i>Sch. "Critic."</i> | | |
| Wages of officers and men..... | 686 48 | |
| Provisions..... | 237 68 | |
| Charter..... | 520 00 | |
| Miscellaneous expenditure..... | 176 23 | |
| | | 1,620 39 |
| <i>Sch. "Connaught."</i> | | |
| Wages of officers and men..... | 1,673 63 | |
| Provisions | 741 53 | |
| Charter..... | 1,200 00 | |
| Miscellaneous expenditure..... | 392 13 | |
| | | 4,007 29 |
| Customs steam yacht "Argus," while employed on special services..... | | 158 75 |
| General Account, miscellaneous expenditure..... | | 2,973 54 |
| Fisheries Intelligence Bureau..... | | 912 54 |
| Total..... | | 70,707 50 |

RECAPITULATION.

| | | |
|--|-----------|------------------|
| Str. "Acadia"..... | 16,860 81 | |
| do "La Canadienne"..... | 15,001 91 | |
| do "Stanley"..... | 11,700 81 | |
| do "Cruiser"..... | 4,509 25 | |
| do "Dream"..... | 7,878 38 | |
| Sch. "Vigilant"..... | 5,083 83 | |
| do "Critic"..... | 1,620 39 | |
| do "Connaught"..... | 4,007 29 | |
| Str. "Argus," special..... | 158 75 | |
| General Account..... | 2,973 54 | |
| Fisheries Intelligence Bureau..... | 912 54 | |
| Total..... | | 70,707 50 |
| This amount will be reduced in the sum of \$2,254.63, being the share of "Cruiser" expenses paid by Customs Department..... | | 2,254 63 |
| Net expenditure, Fisheries Protection Service | | 68,452 87 |

POUND-NETS.

The question of the effect upon the several fisheries in which nets of this character are used, as compared with those commonly known as gill-nets, has been a subject of much discussion on the part of those actively engaged in fishing by means of one or the other system.

Before proceeding to deal with this aspect of the question, I desire to submit a statement of the Department's action with reference to another phase of this industry, the importance of which is scarcely less than that above referred to.

It has long been a subject of complaint on the part of Canadian fishermen operating in the waters of Lakes Huron and Erie that while restrictions were placed upon the number of pound-nets for which licenses were granted in Canadian waters, as well as regards the periods of fishing, that on the United States' shore of these lakes the fishing was carried on without any restriction whatever, and that in consequence the operations of Canadian fishermen were prosecuted at a great disadvantage. Recognizing the force of this contention, but at the same time being fully aware of the baneful effect upon the fishing, which must follow, if the demands of our fishermen were conceded, it was deemed expedient to address the United States' Government on this subject, the initiatory step being taken in your report to the Privy Council of the 25th of June last, and upon which a minute was approved by His Excellency on the 5th of July, in the following terms:—

“On a report dated 25th June, 1890, from the Minister of Marine and Fisheries, stating that he has received urgent representations in the interests of the pound-net fishermen of Lake Erie, fronting on the County of Essex, asking that they be authorized to use double-headed pound-nets for fishing, instead of being limited, as at present, to the single pounds licensed by the Fisheries Department—their object being to increase the catching power of this fishing apparatus.

“The Minister observes that the question of pound-net fishing is one which has engaged the attention of the Department of Fisheries for years, and has always been found a difficult one to deal with, especially in waters adjacent to those of the United States, where fishing is carried on in close proximity to that in Canadian waters.

“Pound-nets are prohibited by the Fisheries Act (chapter 95, Revised Statutes), except under special licenses and subject to certain conditions. The policy of the Fisheries Department has been to curtail this mode of fishing within as reasonable limits as possible and minimize its destructiveness.

“The fact that these nets are allowed at all, though under a heavy license fee, is largely due to the strong representations on behalf of Canadian fishermen of the unequal position in which they were placed, both as regards the times and modes of fishing, as compared with the unrestricted fishing carried on in United States waters within their sight, and in which fishermen are permitted to take fish at all times and by all means.

“To protect the fishery, the operations of Canadian pound-net fishing on Lake Erie have been curtailed to the extent of discriminating as much as possible against the use of double-headed pounds.

“The Minister further observes that the importance of the interest involved and the difficulty which exists to maintain a proper observance of the different close seasons for fish by reason of the sedentary nature of pound-nets, which of necessity catch all kinds of fish at all times, render it highly inexpedient to relax the precautions of the Department of Fisheries towards the economical management and administration of the fishing industry; especially in view of the fact that observance of the close seasons and other Fishery Regulations is exacted from all other fishermen.

“The Minister regrets that there is an absence of similar legislation in this and other directions for the protection and preservation of the fisheries in the waters of

the neighbouring States of Michigan and Ohio, and before advising that the policy, as authorized, regarding pound-net fishing, be abandoned, he is of opinion that it would be well to seek co-operation on the part of the authorities of the States of Michigan and Ohio, and he therefore recommends that a copy of his report be transmitted to the Right Honourable the Principal Secretary of State for the Colonies, for submission to Her Majesty's Government, with a request that it be brought to the notice of the State Governments of Michigan and Ohio, as well as of the General Government of the United States.

"The Committee concurring in the above, advise that Your Excellency be moved to forward a copy of this Minute to the Right Honourable the Secretary of State for the Colonies, with a request that it be brought to the notice of the United States' Government and of the Governments of the States of Michigan and Ohio, and with the expression of a hope that the whole question of the protection of the fisheries in inland waters contiguous to the United States and Canada may be considered, with a view to some international action, having for its object the adoption of uniform regulations restricting the catching of fish at times and by means which tend to exhaust these fisheries."

No understanding has yet been arrived at with the United States' authorities on this subject.

To return to the question of pound-net and gill-net fishing and the effect of the respective modes on the fishing industry at large, there will be found in Appendix No. 6 to this report a memorandum on pound-net fishing, giving the answers by fishery officers and others to a series of questions through which it was desired to elicit the views of practical fishermen and others engaged in the fishing business.

As is the result in most enquiries of a character similar to that under consideration, there is a wide divergence of opinion on the part of those answering the questions. Mr. Charles Wilmot, the officer in charge of the fish hatchery at Newcastle, Ontario, and who has for some years past conducted the Department's operations at Georgian Bay in procuring salmon trout and whitefish spawn, reviews at length the answers given to the several questions, and in an interesting report supplements the result of his own observations on the matter at issue. Mr. Wilmot expresses an emphatic preference for fishing by means of pound-nets to that with gill-nets, and supports his conclusions and arguments with data which are certainly entitled to consideration. He has, however, dealt with two aspects of the question, which must certainly enter largely into its consideration before a satisfactory conclusion can be reached. The first is that to adopt a system of pound-net fishing to the exclusion of gill-nets would throw the business of fishing into the hands of extensive operators and capitalists, and as a result paralyze that branch of the industry carried on by means of gill-nets, and in which the aggregate capital invested amounts to a very large sum, beside throwing out of employment a considerable number of our population who now fish for a living by means of gill-nets.

The cost of a well-equipped pound-net with boat, new, ready to set is \$1,000, while a fisherman can equip himself with a boat and a gang of gill-nets for \$500. The cost of gill-nets can of course be illimitably extended by an increase of their number, but the point I wish to make is, that there are many men

engaged in' gill-net fishing in a reasonable way who could not provide themselves with a pound-net outfit.

The second point is the absence of the consideration as to the locality in which the different modes of fishing can be carried on.

That the system of gill-nets is an advantage over that of pound-nets, in being migratory, thus enabling the fishermen to follow the fish to their haunts at different periods of the year, is admitted; and that this is not an unreasonable advantage, when legitimately pursued, will, I think, also be conceded when considering the operations of the Fisheries Intelligence Bureau on the Atlantic coast, which are undertaken solely for the purpose of informing the fishermen as to the presence of fish in the waters of a particular part of the coast. The fact should not be lost sight of that there are many long stretches of water bordering the shores of our inland waters where pound-nets cannot be used, owing to the nature of the bottom, for it is well understood that a mud or soft bottom is necessary in which to drive stakes to fasten the pound-net, and it will therefore be seen that were gill-nets prohibited it would mean the prohibition of fishing altogether in parts of our inland waters.

While the system of pound-net fishing has been sanctioned by the Department to a reasonable degree, not a little difficulty has been experienced in restraining the operators of this system from excessive fishing by what is termed "double-headed pounds."

The decided advantage the pound-net system possesses over that of gill-nets, in the better condition in which the fish so taken are available for market, is so fully dealt with by Mr. Wilmot that reference thereto seems unnecessary, beyond stating that I, on this point, very generally concur with Mr. Wilmot's statements.

Sufficient evidence has, I think, not yet been adduced to show that the Department would be justified in recommending the adoption of extreme measures looking to the abrogation of either of the systems of fishing named. I would suggest, therefore, a continuance of the pound-net system under such restrictions as may from time to time be considered necessary, but that "double-headed pounds" should not be sanctioned, and that the mesh of the nets should be fixed at a size sufficiently large to prevent the possibility of small or immature fish being gilled. A regulation should also be enacted fixing the distance apart at which these nets must be placed.

With reference to gill-net fishing, the length of the net which each boat under present regulations is entitled to fish is 6,000 yards. This, in my opinion, should be curtailed rather than advance the fee of \$5 per boat now paid for the privilege of fishing during the whole season with nearly $3\frac{1}{2}$ miles of net. It will, I think, be conceded that this charge is wholly inadequate to the privilege granted. The boats licensed should take out a fishing permit, which I recommend should be furnished free of charge, and should have painted or put on in some other distinguishing way, in a conspicuous part of the sail, the official number of such permit, and should also have this number painted on the bow. The nets used by a boat should have a tag attached thereto bearing this number, and having the owner's name legibly written or stamped thereon. I would further recommend that steps be taken to ascertain, so far as is possible, the principal spawning grounds to which the fish repair in the fall of the year to deposit their ova, and that no fishing be permitted within a mile of these localities.

The adoption of the regulations suggested, the rigid observance of close seasons together with that of the size of the mesh, will, aided by the Department's fish breeding operations, go very far towards bringing within proper control and the maintaining the supply to an industry the importance of which is scarcely estimable.

I confidently look forward to the day when the "poor fishermen," having realized the benefit to the fishery in which he toils, of wholesome regulations, unsparingly enforced, will look upon the Fisheries Department as his best friend.

OYSTERS.

The state of the oyster fishery in the Maritime Provinces of the Dominion has already attracted not a little attention on the part of those interested in its preservation.

A commendable effort has been made by a few persons towards the introduction of oyster culture by private enterprise, and the effort has, the Department is informed, been reasonably successful. It has, however, become apparent that if this fishery is to be saved from extinction radical regulations, looking to a less destructive mode of carrying it on, are imperative, as already some of the beds in the Provinces of New Brunswick and Prince Edward Island, which not many years ago were conspicuous for their oyster production, have either become wholly exhausted or so nearly so as to render fishery operations no longer profitable. Notable amongst these are the once prolific beds of the harbour of Shediac, N.B., and although these beds gave unmistakeable signs of exhaustion many years before its accomplishment, an effort made by the Minister of Marine and Fisheries in 1875, looking to their preservation and reuscitation, met with so much opposition in the district that it was abandoned.

The existing reasons for the depleted state of the oyster fishery are so fully referred to in my annual report of last year that any repetition of the facts appears uncalled for.

In 1885 the close season for oyster was extended from the 1st to the 15th of September, and the season is now fixed, by regulation adopted on the 6th of August, 1885, at from the 1st day of June to the 15th day of September in each year. This is the only regulation in existence bearing upon the oyster fishery in the Dominion. The fishery has been relentlessly pursued, and may yet be, till the new regulations take effect, by any persons who see fit to rake oysters at any place and in any manner they please, and wholly regardless of the size of oysters taken or the injury to existing beds, by leaving large numbers of small oysters and shells on the ice to, in the spring of the year, drop upon and destroy the beds.

With a full sense of the importance of this question, an exhaustive report was, in March last, made to His Excellency in Council, in the following terms:—

DEPARTMENT OF FISHERIES,

OTTAWA, March, 1890.

To His Excellency the Governor General in Council.

Reverting to the enquiry made by the Commission appointed in 1887 to investigate the condition of the oyster fishery of Canada, the undersigned has the honour

to call attention to the report of that Commission, and to the necessity for the adoption of measures to ensure the preservation and improvement of this important Canadian industry.

The report of the Commissioners shows the great extent of area suitable for oyster culture in the Dominion, and they say that they found many of the beds extinct, while others were rapidly becoming exhausted, from want of proper cultivation and protection, from indiscriminate and improvident raking.

The Commissioners concluded their report with the following suggestions:—

They would respectfully recommend to your Honour's consideration that one general law or regulation should cover the whole of the Canadian Atlantic seaboard, with the following provisions, namely:—

I. That existing oyster beds be reserved to the public, and that their limits be officially defined;

II. That mud-digging be prohibited within sixty yards of any officially recognized workable live oyster bed;

And that suitable portions of bays, creeks, estuaries or harbours be considered closed for oyster fishing, and said closed portions be laid off for the digging of shell manure;

III. That bays of considerable extent, in which are many oyster beds, be marked off in two or more divisions, and that the divisions be fished only in alternate years;

IV. That, for the present, the existing close season be retained, namely, from 1st June to 15th September in each year, both days inclusive;

V. That under penalty of forfeiture of boat and appurtenances, no fisherman shall bring ashore (excepting for authorized purposes), any "round" oyster that does not measure fully 2 inches in diameter of shell, nor any long (oblong) oyster that does not measure fully 3 inches of outer shell, and that possession of such under-sized oysters by any person shall be punished by fine;

VI. That all winter fishing be prohibited for oysters (Commissioner Ogden dissenting);

VII. Temporary or permanent proclamation to close localities where the supply is so nearly exhausted as to warrant closure;

VIII. That under section 21, sub-section 4, of the Fisheries Acts a liberal inducement be offered, under a system of leases to persons who will undertake, under stringent regulations, to grow oysters on private beds, that is to say, that a lease be given (under bonds) for not more than nine years (renewable), at a nominal rent for the first three years, conditional on a sufficiency of brood oysters being planted on the area within one year after date of the issue of lease. The Government to have a lien on such planted beds;

IX. Easy and inexpensive arrangements, by which persons owning water frontages may lease their own foreshores for oyster culture from the Government;

X. That Parliament be invited to appropriate a sum or sums for the formation of oyster beds in various waters and places found adapted for that purpose, and for

transplanting oysters, and re-stocking exhausted fisheries by natural or artificial means—in accordance with section 21, sub-section 5, of the Fisheries Act;

XI. The appointment of a responsible officer of fisheries, capable of the position, and to rank with the Superintendent of Pisciculture as General Superintendent of Oyster Fisheries, and to have general superintendence of all public and private oyster culture ;

XII. A system of registration of oyster boats, with other details to be arranged by the Department.

With reference to clause XII, Mr. Commissioner Ogden moved the insertion of the word "free" system of registration, &c.

Mr. Commissioner Deacon moved, seconded by Commissioner Duvar, that the annual registration fee for oyster fishing boats be one dollar—Carried. Mr. Ogden dissenting.

All of which above-written report is respectfully submitted.

Dated at Shediac, Province of New Brunswick, the fifth day of November, A.D. 1887.

EDWARD HACKETT, *Chairman*,
ALFRED OGDEN,
W. B. DEACON,
J. HUNTER DUVAR, *Secretary*.

Since the labours of this Commission were ended the undersigned has had the advantage of perusing, among other documents, a very interesting and recent work upon the "Economic Mollusca of Acadia," written by Professor W. F. Ganong, a native of New Brunswick, at present a lecturer in the University of Harvard. Mr. Ganong reviews the condition of our oyster beds and says : "There are two futures open to the oyster industry of Acadia ; free fishing by the people and a lingering death, or a vigorous Government interference, and a great and lasting prosperity. This is the kernel of the whole matter ; Government interference. It has worked well in other countries ; it would, under the same conditions, work well in this. The duty of the Government, if it take charge of it, would be two-fold ; to regulate the fishery on the public beds, and to give encouragement to culture by corporations and individuals.

"As to the first, the position and extent of beds must be determined, and each one given a period of rest, being fished not oftener than once in three years ; the close season should be vigorously enforced ; fishermen should be made, under heavy penalties, to return to the water all oysters under certain sizes ; mud machines must be restricted to certain places in each district, being given ample liberty, but not allowed within a certain distance of any living bed ; mills must not be allowed to discharge sawdust into the water within a long distance of a living bed ; fishing through the ice should be regulated, so that refuse cannot be allowed to fall on the beds. As to the encouragement of culture, laws should be enacted which would give to a culturist as good a right to his product, and as full protection from theft, as has a farmer. Areas in good localities should be set aside and leased for long periods ; but, as a rule, the public beds should not be trespassed upon. Some beds should always be reserved for public fishing ; freedom to take wild game under common sense condi-

tions the Dominion should be very slow to take from its citizens. Private individuals should be encouraged to take their seed-oysters from our own beds, as there are none better nor so good for our climate."

The undersigned observes that, in France and in the British Isles, as well as in some parts of the United States, the oyster beds are divided into public and private fisheries, and a leasing or licensing system prevails in these countries.

It was evidently the intention of the Canadian Parliament, so long ago as 1868, to encourage in the same way the development of this important industry, as witness the provisions of 31 Victoria, cap. 60.

By this Act Parliament provides for the granting of licenses or leases for the exclusive right of fishing oyster beds in any of the bays, inlets, harbours, creeks, rivers, or between any of the islands of the coast of Canada. It provides for the expenditure by the Minister of Marine and Fisheries of all sums appropriated by Parliament "for the formation of oyster beds in various waters and places found adapted for that purpose, and transplanting oysters."

This Act further provides that shell-fish fisheries shall be subject to any regulation or regulations to be made under the Fisheries Act.

In a recent opinion, the Minister of Justice says:—

"The whole of the provisions of the Fisheries Act respecting licenses and leases of fishing rights, including those relating to oyster beds, are within the authority of Parliament. The Minister of Marine and Fisheries may, therefore, give an exclusive right of oyster fishing for any area of the sea coast, including the foreshore, that he thinks fit."

Sec. 4 of the Fisheries Act, chap 95, Revised Statutes, enacts that;—

"The Minister of Marine and Fisheries may, wherever the exclusive right of fishing does not already exist by law, issue or authorize to be issued fishery leases and licenses for fisheries and fishing wheresoever situated or carried on; but leases or licenses for any term exceeding nine years shall be issued only under the authority of the Governor in Council."

Sec. 21, sub-sec. 4, of the same statute, also provides that:—"Special licenses and leases for any term of years may be granted to any person who wishes to plant or form oyster beds in any of the bays, inlets, harbours, creeks, or rivers, or between any of the islands on the coast of Canada; and the holder of any such lease or license shall have the exclusive right to the oysters produced or found on the beds within the limits of such lease or license."

On this point the Minister of Justice is of opinion that it would be well that, "the instrument given should take the form of a license rather than that of a lease, inasmuch that it might be contended that, by an instrument of the latter kind, the Department intended to give possession of the sea-bed as distinguished from a license, and the owner, whether the Dominion or Province, or a subject, might contend that such an instrument interfered with the rights of the owners in fee. If the instrument take the form of a license it will be of the same utility to the holder as a lease; but the holder, instead of having an estate in the soil itself, would only have an exclusive franchise or right of user for the purposes mentioned in the Statute."

It is therefore apparent that, so far as legislation goes, it is possible to regulate in Canada this fishery as effectively as is done elsewhere, and the undersigned believes that, much can be accomplished under a proper system of regulations.

In dealing with this matter it is essential to remember the large field open to Canadians for profitable enterprise. The area on the Canadian coast suitable for oyster culture is enormous. This mollusk has been found from Bay des Chaleurs to Baie Verte in the following places, viz; between Caraquet Banks, at Caraquet, St. Simon, Shippegan Harbour and Gully, Tracadie, Tabusintac, Burnt Church, Bay du Vin, and many other places in Miramichi Bay; Kouchibouguac, Richibucto, Buctouche, Cocagne, Shediac, and Baie Verte. In Nova Scotia the oyster is found at River Philip, Pugwash, Tatamagouche, River John, Pictou, Tracadie, Mabou, Margaree, Sydney, Albert Bridge, Country Harbour, St. Mary's River, Liscombe Harbour, Jeddore Head and nearly everywhere in the Bras d'Or Lakes. It is found all around the Island of Prince Edward; many places in British Columbia are also adapted for the cultivation of oysters.

In 1878, 30,090 barrels were taken in Canada, valued at \$90,270.00; and in 1882, 64,646, of a value of \$193,938.00; while in 1884, only 41,956 barrels, valued at \$126,458.00, were taken.

Prosecuted with greater energy than ever, and by more people, this fishery produced in 1888 only 56,234 barrels, valued at \$163,902.00; being less than in the years 1887, 1886 or 1882.

The consumption or demand for oysters in Canada is considerable, there being imported in the year 1888 as many as 1,698 barrels, 234,502 gallons shelled in bulk, and 198,543 pounds canned or preserved. In 1880 this industry, in the United States, employed 52,805 men, and yielded 22,193,370 barrels, worth \$9,034,861.00, and of this catch it is stated that 80 per cent. came from Chesapeake Bay. In 1881, in France, 29,431 men, women and children were employed in taking 374,985,770 oysters from September to June, worth 2,061,753 francs, equal to \$412,350.60. This was from the public beds alone, independent of private beds.

In England, in 1883, the value of oysters taken was nearly \$10,000,000.00 (£2,000,000.)

In a report made to the Minister of Marine in France by Mr. Brocchi, relative to oyster culture on the shores of the channel and of the ocean, and published in the *Journal Officiel de la République Française* of the 8th November, 1881, it is stated, when alluding to the success of the industry, that "the experiments to which the State devoted considerable sums produced great effect."

Attention should be directed to the Basin of Arcachon, where experiments have been crowned with wonderful success and to which the undersigned desires to call special attention. In 1863 oysters existed in a natural state in this basin, but ignorance and want of foresight had hitherto produced bad results. "The natural beds were silted up with mud, and the oysters were rapidly disappearing." The Government rented parts of the basin for culture, and in 1886 one of the places rented, that of Luhillon, four hectares in extent, furnished more than 5,000,000 oysters. The effect of this was to induce applications for concessions, which greatly increased. In 1879 one of the Government reserves (200 hectares) furnished

25,000,000 oysters. The Basin of Arcachon which, in 1858, only furnished oysters to the value of £100, in 1888, after the introduction of Government regulations and a system of cultivation, yielded 203,279,000 oysters, of a value of £178,887.00.

Mr. Brocchi states in his report that, while the number of "parcs" in 1865 was 297, it rose to 4,259 in 1880. That, during this period, the number of oysters exported rose from 10,584,000 to 195,477,375.

At Arcachon the rents ranged from 30 to 45 francs per hectare, according to the position of the "parcs;" while in Brittany 100 francs for an equal area is charged. Mr. Brocchi deprecates so high a tax upon the industry.

In a report to the Minister of Marine and Colonies in France by Mr. Bouchon Brandely, Secretary of the College of France, relative to the generative and artificial fecundation of oysters, published in the journal last referred to on the 15th December, 1882, he says:—

"The Marine administration has, since the creation of the ostricultural industry, "never ceased to encourage by different measures, such as concessions, missions, "&c., every attempt having for its object the development and perfecting of this "industry. It is to this, unquestionably, that ostriculture owes its present prosperity and the constant progress it has achieved—a progress which has been so "brilliantly represented at the Exhibition of Bordeaux."

Mr. Bouchon Brandeley, in another report (*Rapport au Ministre de la Marine relatif à l'ostréoculture sur le littoral de la Manche et de l'Océan, extrait du Journal Officiel des 22, 24, 25 et 26 janvier 1877*) remarks on the progress of oyster culture in France:—"The strict observance of the decrees of 1852 in the conduct of the fisheries may be regarded as having contributed largely to their actual prosperity. These decrees, the wisdom and opportuneness of which the event has demonstrated, were intended to stop the spoliation and exhaustion of the oyster-beds and subject their exportation to strict and regular regulations."

The persevering application of these measures, the care unceasingly renewed, the encouragement and the example which the administration of the Marine continually gave, resulted in bringing about the restoration of the natural beds, which were approaching exhaustion, and in provoking a revival of oyster culture by private individuals.

Professor Huxley and Sir James Caird, together with Mr. Shaw Lefebvre, reported to the English Government in about the year 1863, calling attention to the falling off of the supply of oysters from the failure of spat. They recommended as therefore necessary the acquisition by individuals or companies of sea-bottom for oyster culture.

Archibald Young, advocate, Inspector of Salmon Fisheries for Scotland, in a report on the oyster and mussel fisheries in Wigtown Bay and Loch Ryan, and from Corsewall Point, outside Loch Ryan northwards, as far as the Island of Mull, remarks:—

"Promiscuous and ill-regulated fishing on any bed or scalp to which oysters or mussels are attached simply means the extinction of these oysters or mussels in a longer or shorter space of time, especially if no close-season is observed, and if immature fish are carried away and sold, instead of being returned to the bed.

"On this subject I am glad to be able to quote from such authority as Mr. Harding, who, in his paper on mussels and other mollusks used as bait and food writes as follows :—' I consider the best and only way that existing natural mussel beds can be properly cultivated and protected is to make them the actual property of some one. If they are allowed to be fished indiscriminately they will quickly become exhausted, as has been the case with hundreds of natural scalps on the coast. Fifty years ago mussels were very prolific on the east coast of England, and almost every small harbour had its natural scalps outside, which fed the 'lays' or fattening grounds inside, to the great profit of the owners of such lays. About that period some ill-starred individual discovered that they were valuable for manure, when commenced a raid on the scalps, which is the origin of their present downfall. I can remember, as a boy, seeing hundreds and thousands of tons brought to land and sold to the farmers for manure at three-half pence a bushel.

" 'An Act was passed by Parliament, in 1868, called 'The Sea Fisheries Act, 1868,' which enables the Board of Trade to grant provisional orders to corporations and private individuals to regulate oyster and mussel fisheries; but the result so far has been very unsatisfactory."

Elsewhere he writes :—"The secret of the whole matter is, that where mussel and oysters cultivation has proved successful the person undertaking the same has obtained a concession from the Government to work the beds exclusively himself, and has not been hampered by other persons claiming a right to fish on his grounds; in other words, fishings are worked in precisely the same way as farms on the land, where the farmer sows his seed and, at the proper season, reaps his corn."

"He," Mr. Gibbon, "thinks that the allowance of the general public to fish for oysters or mussels without restriction or regulation means the inevitable destruction of the beds—some sooner, some later."

"The oyster fishings in Scotland, once so productive, have now dwindled down to a value of about £1,000 a year, or a fraction of what they once yielded. There are scores of proprietors in Scotland—I can state from personal knowledge—willing and anxious to begin oyster culture, to re-stock exhausted oyster beds or to establish new ones; but they decline to make the experiment and run the risk unless they are protected, as in the United States of America, where, for example, in the State of New York, the State sells to individuals an absolute right to fore-shores and sea-bottom suitable for oyster culture, and guarantees, at the time, that that right will be protected by the State. It takes from three to four years to rear a marketable oyster; and if during that period there is no security against a fleet of fishing boats swooping down and dredging out all the oysters, as has happened more than once, the proprietor would be a fool who would attempt oyster cultivation.

"At Oban I had a long interview with M. Blackie, manager of the Highland Fisheries Company. He thinks that the Fishery Board should be empowered to regulate the mode of fishing oyster and mussel beds—that is to say, by marketing them out, and providing that a certain portion of them shall remain fallow every, and also by fixing a gauge, under which no oyster or mussel shall be allowed to be taken."

"Immediately after my visit to Loch Creran Mr. Anderson addressed to me the following letter, dated 27th July, 1887, on the subject of the oyster and mussel fisheries on the west coast:—

“ ‘DEAR SIR,—With regard to our conversation of yesterday as to the cultivation of shell-fish on the West coast, I trust the Board will see proper to take action so as to protect this industry, without which protection it can never assume any important proportions.

“ ‘I had formerly occasion to address the Board as to the cockle beds of Barra, since which these valuable beds have followed the great mussel grounds of Loch Roag and elsewhere to comparative destruction. Every bed attacked will be treated in the same manner. So long as there is no control the people will continue to fish them out; while, at the same time, they would willingly have the beds protected against themselves were they equally protected against their neighbours.

“ ‘Besides the acts of depredators upon private beds, the industry at present requires to be protected.’ ”

During the last session of the Canadian Parliament an interesting discussion took place regarding the oyster fisheries of the Dominion. Senator Poirier brought the subject to the notice of the Senate, and especially alluded to the great destruction caused by winter fishing through the ice, when small oysters and spat were destroyed in great quantities. Senator McFarlane, whose great experience renders his views especially important, pointed out the hardships which the prevention of winter fishing would cause to many people. He strongly advocated restoration of exhausted beds by the Government.

Referring to the subject of Government cultivation, Mr. Young, from whom the undersigned has already quoted, says:—

“Mr. McGibbon, Ivy House, ex-Provost of Stranrar, who has long been well acquainted with the oyster fisheries in Loch Ryan, and takes a great interest in them, recommends that the Fishery Board should select a suitable locality for the cultivation of oysters and mussels, that is to say, a locality not only physically suitable for the cultivation of the mollusks, but also capable of being easily watched and protected, and demonstrate to the fishermen the advantages of scientific cultivation of both as regards themselves and the general public.”

The undersigned, in view of the experience obtained in other countries, and the opinion of the foregoing eminent authorities, accordingly approves of the suggestions of the Commissioners already referred to, in so far as they advise:—

1. Defining the limits of the oyster beds in Canada—that is, to survey the natural beds and prepare special charts showing the location of the present as well as of the abandoned beds, for the purpose of laying out areas in connection with a license system, which should be at once adopted and put in force.

2. Prohibiting mud-digging in the vicinity of oyster beds. The digging could be done under the sanction and direction of the nearest officer.

3. Fishing in certain divisions only during alternate years.

4. Retaining the present close-season, viz., from 1st June to 15th September.

5. No round oysters under 2 inches in diameter of shell, nor long oyster under 3 inches of outer shell, to be taken.

6. Prohibition of public fishing in localities where the supply is nearly exhausted.

7. That a sum be appropriated by Parliament for the formation of beds and for re-stocking exhausted fisheries, in accordance with sec. 21. sub-sec. 5 of the Fisheries Act.

The recommendations of the Commission regarding :

1. Prohibition of winter fishing;
2. Arranging for owners of fore-shore to lease the same for oyster culture;
3. Appointment of a special staff of officers;
4. Registration of oyster boats the undersigned does not think should be adopted.

The prohibition of winter fishing is, in the opinion of the undersigned, a measure far too severe to be at present enforced; it is possible to make other provisions preventing much of the injury done by winter fishing, such as to provide against leaving small oysters on the ice, but to see that they are immediately returned to the place from which they may come.

The suggestions regarding owners of fore-shore do not appear to be expedient, such owners having no special rights regarding the oyster fisheries.

As to the recommendation regarding the appointment of a special and expensive staff of officers, it appears to the undersigned that, with occasional local temporary help, it is possible to do all that is required with the staff in the service of the Fisheries Department.

The undersigned begs, therefore, to recommend the adoption of the following regulations:—

1. No one shall fish for or catch any oysters in the Dominion of Canada, except under the authority of the Minister of Marine and Fisheries;
2. No one shall fish for or possess any oysters between the first day of June and the fifteenth day of September in each year, both days inclusive.
3. No one shall fish for, catch or possess any oysters less than 2 inches broad or less than 3 inches in length. All oysters taken under these dimensions to be immediately returned to the water, under penalty of fine and forfeiture of all materials, implements or appliances used, and the cancellation of the license.
4. Mud-digging is prohibited within 200 yards of any live oyster bed, and then only at such place or places as may be prescribed by a fishery officer.

As the open season for oyster fishing began in September last, and will not end until June next, interference at present with the operations of those engaged in the industry; so far as the introduction of a license system, under the first regulation herein proposed, would be inexpedient. The undersigned therefore recommends that the said first regulation shall not be of any force or effect until September next.

The undersigned being anxious to establish the necessity of practically demonstrating the possibility of restoring oyster beds, and with the view of encouraging private culture, proposes to re-stock the once famous but now exhausted beds of Summerside Harbour and Bedeque, in the Province of Prince Edward Island; and for this purpose he has the honour to recommend that a sum of \$5,000 be placed in

the Supplementary Estimates towards assisting the formation and planting of oyster beds.

Respectfully submitted.

(Signed) CHARLES H. TUPPER,

Minister of Marine and Fisheries.

Upon this report a Minute was based, approving of its recommendations, except in the case of mussel-mud digging, which it recommended should be changed to a distance of not less than 200 feet, instead of 200 yards, as recommended.

This Minute further directed that the regulations should not take effect until a survey was made, and for which Parliament at its last Session made and appropriation of \$5,000. Steps have been taken to proceed with this survey, and it is confidently anticipated that before the end of the summer of 1891 it will have sufficiently progressed to admit of the formation and cultivation, under proper restriction, of public oyster beds.

Meanwhile, and to facilitate the applications of persons desirous of obtaining exclusive licenses for the cultivation of private oyster beds, the following "Regulations to guide Surveyors in preparing plans and descriptions for applications for oyster fishing licenses" have been prepared:—

REGULATIONS to guide Surveyors in preparing Plans and Descriptions for applications for Oyster Fishing Licenses.

1. All surveys of Oyster License Limits are to conform to the largest scale Admiralty Chart published, of the Harbor or locality to which the application refers. Such Chart can be seen on application to the Fishery Overseer of the District in which the limits are situated.

2. Boundaries are to be fixed by reference to well-defined objects marked on the charts, or by any surveyors' boundaries already existing, but in these last cases the surveyors' boundaries must be defined for platting on the chart by reference to points marked on the chart, so that they can be accurately located by the officers of the Department from the surveyor's description.

3. Where surveys are bounded by lines, these lines must be due astronomical east and west and north and south lines.

4. The extremities of any lines, or other boundaries, when on land, must be marked by monuments, in accordance with the law governing land surveys.

5. The boundaries of lots, when in the water, must be so defined that they can easily be located at any future time. Satisfactory definitions would be two cross ranges on land, separated by an angle of at least 60 degrees, with the objects in range defined on plan, or at least three sextant angles, each of not less than 40 degrees, measured to four prominent objects on shore shown on the chart. Compass bearings alone, unaccompanied by any other check, will not be accepted.

6. A plan of the survey must be furnished, which is to be made on the basis of the Admiralty Chart of the locality as above mentioned, either on the same scale or some multiple thereof, or it may be platted upon a printed copy of the chart. On the plan all boundaries, distances, bearings and connections, with reference points, must be distinctly shown, and an error, clerical or otherwise, will condemn the whole survey.

7. The plan must be accompanied by a description giving the metes and bounds of the lot and its area in acres, in such terms as would in the case of an ordinary land survey be held in a court of law to be a legal description for a title deed.

8. In the event of previous surveys having been made in the same locality, the plan is to show the nearest boundaries of such surveys, and their relation to the new survey.

Forms of applications and licenses have also been prepared. It is contemplated that the rental chargeable under these licenses shall be moderate, but that the *bona fide* character of the application shall be satisfactorily established, and that subsequently the conditions regarding an active and intelligent proceeding with the work shall be rigidly enforced. The questions of a better system of barrelling oysters, and that of inspection, are held for consideration later on; but I cannot refrain from stating, in this connection, that there is no good reason (unless it be that of careless selection and packing) why Canadian oysters, better in flavor as they are, now bring but a little more than half the price of the American oyster.

The following memorandum by one of the Inspectors of Fisheries of the British Board of Trade (Mr. C. E. Pryer) will be found of interest:—

“The enquiry made by the Canadian Minister of Marine and Fisheries appears to refer to the methods adopted in England and France for the selection, for the purpose of oyster cultivation, of areas on which oysters do not naturally exist. So far as England is concerned, the efforts to develop the oyster fisheries have been almost entirely, if not altogether, limited to the maintenance of the supply from actually productive beds, and to the resuscitation of natural beds whose productiveness has deteriorated. Little or nothing has, as yet, been done in this country in the way of attempting to create new oyster beds by stocking grounds not previously known to have produced oysters naturally, though small areas of ground artificially prepared are, in some cases, used as places for the growth, or for the simple storage of oysters dredged from the natural beds, in contiguity to which such areas are usually located. In the majority of cases these areas are private property, and the steps taken are entirely at the discretion and risk of the proprietors or promoters. In cases where application is made for an order giving private rights over grounds on which there is a public right of fishery, it is usual for an inspector to make an examination of the ground by dredging, and to satisfy himself that the conditions are such that there is a reasonable prospect of oyster culture proving successful, and that the probable advantages are not so problematical as to render it undesirable to interfere with the public right of fishing for other fish.

“The conditions suitable for oyster culture vary, of course, in different localities and with different classes of oysters, but the general requirements may be said to be a suitable soil, consisting preferably of a bed of shells superimposed on hard mud or clay, an absence of sand, and of five fingers, dog-whelks, crabs and other enemies of the oyster, a tidal flow, and a certain admixture of fresh water, varying according as the bed is required for breeding purposes, or mainly as a fattening ground. In some cases oysters grow abundantly on rocky ground, and it is impossible to say generally, without a full knowledge of the circumstances of each case, how far any particular area may or may not be or become a likely oyster ground.

“A further consideration, which must not be omitted is, the difference between the ordinary American oyster and the European oyster.

“As regards France, I believe the above remarks apply generally. Oyster culture is carried on in that country to a far greater extent than in England, but I

am not aware of any French beds artificially constructed or improved which are not on the site of or closely contiguous to grounds originally producing oysters without artificial help.

"At Arcachon, for example, where the most important of French artificial oyster fisheries are situated, the greater part of an extensive land-locked bay, portions of which originally contained natural oyster beds, has been converted into an oyster farm. The mud lands, foreshore and shallows are parcelled out into small areas allotted to different proprietors and concessionaries, and the flow and reflux of the tide are regulated by means of low embankments and sluices. In this way the water can be retained over ground, which would otherwise be too long exposed during the ebb, or it can be excluded when necessary for such purposes as the preparation of the 'collectors' for the spat, the removal of spat, the sorting of oysters, &c. The supply of suitable soil is limited, but in many cases, by its skilful utilization, it has been spread over areas otherwise unsuited for the purpose of oyster culture.

"In Holland, also, where in some respects oyster culture is carried to a higher degree of development even than in France, and the area of many oyster beds has been extended over spots on which, without such artificial preparation, oysters could not possibly have grown, the natural beds have formed the nucleus of the 'artificial' grounds.

"A notable instance may be found near Bergen-op-Zoom, where the construction of a railway embankment converted one of the mouths of the Scheldt into a quasi bay almost land-locked, which has since been cultivated as an oyster farm, similar in general features to that at Arcachon, the flow of the tide being regulated by sluices. Oysters always existed over certain parts of the area, but by the construction of dykes, pits and channels, the area naturally available for the production of oysters is largely increased.

"It is not to be inferred that ground on or near which oysters have never existed may not possibly be converted into an oyster bed, but the probabilities are in favour of spots whose natural adaptability is shown by the presence or former existence of oysters."

LAKE OF THE WOODS.

Another question which requires co-operation on the part of United States' authorities concerns the fishing in the Lake of the Woods. Representations from various sources established that these waters were being over-fished. The large extent to which the Indians (both of the United States and Canada) were dependent upon the fisheries for their sustenance renders some action, looking to the preservation of the fisheries, of the utmost importance.

The circumference of the Lake of the Woods is about 300 miles; its area 1,094 square miles, 457 of which are within the boundary of the United States. This will give some idea of the extent of its fishery. There are in the immediate vicinity of the lake about 1,000 Canadian Indians.

Concerted action of the Departments of Indian Affairs and Fisheries, looking to some limitation being placed upon fishing operations there carried on, being deemed

expedient, a Minute of Council, based upon the joint report of the Superintendent General of Indian Affairs and the Minister of Marine and Fisheries, was adopted on the 20th August, 1890, as follows:—

“ On a joint report from the Minister of Marine and Fisheries and the Superintendent General of Indian Affairs, stating that excessive fishing is now being carried on in Lake of the Woods, threatening the entire depletion of the fish therein, and that in order to conserve such fisheries as a means of livelihood to the Indians it is necessary to afford protection thereto, by prohibiting the use of pound-nets in the above mentioned waters.

“ The Ministers are impressed with the importance of the matter, and the advantage to the Government in connection with the support of the Indian population in the Lake of the Woods and Rainy River region lying within the Provinces of Ontario and Manitoba, as well as in the neighbouring State of Minnesota, of whom there are on both sides of the line about 3,000 souls.

“ Game is fast disappearing, while Indians are not sufficiently advanced in the art of agriculture to support themselves by tilling the soil, and unless some strict measures are taken to protect the fish supply their sustenance will devolve upon the Indian funds of the respective Governments.

“ The principal fish frequenting these waters is the sturgeon, a large fish, which forms the main article of food for the Indians. Its sluggish nature renders its capture comparatively easy, as they can be herded into nets with little difficulty.

“ The Ministers believe that the reservation of the fishing rights in these waters to the Indians, while interfering with no legitimate industry, will assure to them a means of support, which, by careful fostering and proper protection, can be made enduring, and thus obviate the necessity for large outlay on the part of the Government in sustaining these Indians in the future.

“ The Ministers further remark that a reservation of this nature would, in view of the geographical position of the waters in question, be equally advantageous to the Government of the United States as to that of the Dominion of Canada; and they are of the opinion that, as action by Canada alone would be of little value, it is desirable to seek the co-operation of the United States' Government, with a view to effecting some international arrangement by which the above mentioned waters would be reserved for the exclusive benefit of the Indians of the two countries, and that fishing by means of pound-nets and similar fishing engines be prohibited, reserving, however, the right in common of fishing by hook and line.

“ The Committee recommend that Your Excellency be moved to transmit a copy of this Minute to the Right Honourable the Secretary of State for the Colonies, for submission to Her Majesty's Government, with a request that it be brought to the notice of the Government of the United States of America, with the expression of a hope that the above mentioned arrangement may be effected.”

It has been learned, since this Minute was approved, that the American portion of the Lake of the Woods had lately been ceded to the Indians, and that this change in its status raised some question as to who should be the proper authority to deal with the question. The whole subject was referred to the Secretary of the Interior of the United States by the Government of that country.

NEWFOUNDLAND BAIT ACT OF 1889.

In 1887 the Legislature of Newfoundland passed an Act intituled, "An Act to regulate the exportation and sale of Herring, Capelin, Squid and other Bait Fishes."

In June, 1889, the Legislature of Newfoundland passed an Act intituled, "An Act to amend and consolidate the Laws relating to the sale and exportation of Bait Fishes," similar to that of 1887.

The 25th section of this Act provided that it shall come into operation at such date as shall be appointed by the Governor by his Proclamation. The Act was so proclaimed on the 3rd of April, 1890. The terms of this Act may, in brief, be stated as follows:—

All foreign and British vessels not belonging to this colony which require bait from our coasts for the prosecution of the cod fishery can only obtain it on taking out a license at an ordinary port of entry, and giving bond in the sum of 1,000 that the bait shall be used *bona fide* for the purpose for which it is obtained. This license is issued upon the payment of a fee of \$1 per ton, and entitles the holder to purchase bait for three weeks, but only to the extent of one barrel per ton register. Should fresh supplies of bait be required after the expiration of three weeks the vessel must re-enter at a Customs port, and again take out a license on similar terms to the first, and so on through the fishing season. Light dues will, of course, be exacted as heretofore.

The Colonial Secretary of Newfoundland, under date 15th April, 1890, in conveying information as to the terms of the Act to the Dominion Government, stated that the Executive Council deemed it desirable that the Government of Canada should be informed as to the course which had been decided upon for the carrying out of the Bait Act of this colony during the ensuing fishing season, so that vessels arriving from the Dominion may be prepared for the change which it has been found necessary to adopt in order to ensure that the intention of the Legislature should, as far as possible, be attained. It was further stated that it was not deemed necessary to remind the Canadian Government of the circumstances under which the "Bait Act" was passed; but, in explanation of the procedure adopted, it was stated to have been found impossible to so effectively carry out the law as to stop the French obtaining what they required, whilst the United States' vessels under the *modus vivendi* and British ships not of this colony, and over which it could exercise but scant control, were permitted to come to its shores and take full supplies, which, in many cases, found their way to St. Pierre. It was further stated that the Government had no alternative but to put all outside vessels on the same footing, thus securing to Newfoundland the advantages of a trade that others were engaged in at its expense, and limiting, so far as practicable, the destruction of its bait fishes.

On the 24th April, immediately upon the receipt of information as to the proclamation of the Act referred to, a Minute of Council remonstrating against the restrictions placed upon Canadian vessels by the Act was telegraphed to Her Majesty's Government.

Your report of 26th May, 1890, reviews the question, and I therefore, recite it here:—

"OTTAWA, May 26, 1890.

"The undersigned, adverting to the despatch of Sir Terence O'Brien to Your Excellency, dated the 15th April, 1890, and to the cable message of the 8th May from Lord Knutsford, has to observe that in the year 1886 an Act was passed by the Legislature of Newfoundland, entitled, "An Act to Regulate the Exportation and Sale of Herring, Capelin, Squid, and other Bait Fishes." This Act was in February 1887 disallowed by the Imperial authorities.

"On the 21st February, 1887, the Legislature again passed an Act, entitled, "An Act to Regulate the Exportation and Sale of Herring, Capelin, Squid, and other Bait Fishes."

"Upon the 11th April, 1887, a Minute of Council was approved by His Excellency Lord Lansdowne, in which various objections on the part of Canada to this legislation were mentioned. In this Minute it was shown that under the Act—

"1. Our fishermen upon the Grand Banks would be cut off from their free supply of bait, either by purchase or catch ;

"2. Our fishermen upon the coast of Labrador would be debarred from the privilege of free catch of herring and their hitherto untrammelled trading in herring ;

"3. Whatever trade was then done by Canadian vessels in herring, or bait-fishes, upon the Newfoundland coast, would be no longer left free.

"The Minister of Justice, to whom the report of the Minister of Marine and Fisheries (upon which the said Minute was based) was referred, concurred in the views therein expressed, and submitted the following observations :—

"It seems desirable that the attention of Her Majesty's Government should be called to some of the very unusual provisions in this Bill. The prohibition in reference to purchasing bait extends to all places on or near any part of the Colony of Newfoundland and its dependencies. This really gives no limit to the extent of the enactment capable of being defined, and, inasmuch as a violation of the provisions of the Bill is to be followed by very heavy penalties, he, the Minister of Justice, thinks that such an enactment would be embarrassing and oppressive in its operation.

"The Bill gives extraordinary jurisdiction to Stipendiary Magistrates. The most stringent Acts against fishing by foreign vessels in other parts of North America and given such jurisdiction only to the Vice-Admiralty Courts. The Stipendiary Magistrates' Courts are inferior tribunals, without any regular legal procedure, and presided over by persons who are not necessarily possessed of legal qualifications.

"The Bill contains extraordinary inducements to persons to take up the task of prosecution. On conviction half of the fine goes to the prosecutor ; on acquittal the prosecutor is still to be rewarded ; so that encouragement is given to those who would be disposed to harass and annoy vessels from other parts of British North America by prosecutions which cannot be sustained.

"It is to be observed that the appeal which is to be given from a Stipendiary Magistrate's decisions is of little advantage, as the fishing season would probably be passed and a captured vessel be rendered comparatively useless before the termination of the appeal."

"A remonstrance against the Royal Assent being given to the Act was accordingly forwarded to Her Majesty's Principal Secretary of State for the Colonies.

"This despatch was referred by Her Majesty's Government to Sir R. Thorburn and Sir A. Shea, who had been delegated by the House of Assembly of Newfoundland to make representations to Her Majesty's Government on the subject of this Bill.

"The assurance conveyed by the above delegates that Canadian fishermen would enjoy equal privileges with those of Newfoundland, and that there would be no restrictions on the bait supply of any British subjects, were deemed by Her Majesty's Government to offer, in the language of Sir Henry Holland, Secretary of State for the Colonies, 'sufficient safeguards for Canadian interests,' and consequently, Sir Henry Holland went on to say, in his despatch to Lord Lansdowne, 'Her Majesty's Government did not, therefore, hesitate to advise Her Majesty's assent to it.'

"Accordingly, the following Minute of Council was, on the 11th October, 1887, approved by his Excellency Lord Lansdowne:—

"The Committee of the Privy Council have had under consideration a despatch, dated the 20th May, 1887, from Sir Henry Holland, enclosing copies of correspondence which had passed between the Colonial Office and the representatives of the Government of Newfoundland, then in London, regarding the Newfoundland Bait Bill.

"The Minister of Marine and Fisheries, to whom the papers were referred, reports as follows: 'It appears from the correspondence that a copy of the Minute of Council, dated the 11th April, 1887, urging the objection taken by the Canadian Government to the Bait Bill becoming law, was submitted to Sir R. Thornburn and Sir Ambrose Shea for their consideration. The replies made thereto by these gentlemen conveyed ample assurances that the Government of Newfoundland, in the passage of this Bill, were not actuated by any desire to curtail the privileges of British fishermen, and had no intention of allowing the law to be operated to their prejudice; that no regulations were proposed which would unnecessarily hamper the operations of their own British fishermen, and that every facility would be afforded for procuring the licenses under the Act.'

"Sir R. Thorburn also authorized the dispatch of a telegram by the Attorney-General of Newfoundland to the Canadian Government, conveying the assurance that Canadian fishermen would enjoy equal privileges with those of Newfoundland, and that there would be practically no restriction on the bait supply of any British subjects.

"These assurances appear to Her Majesty's Government to offer such sufficient safeguards for Canadian interests that Her Majesty was at once advised to assent to the Bill.

"The Committee, concurring in the report of the Minister of Marine and Fisheries, respectfully recommend that Your Excellency be moved to transmit a copy of the despatch above mentioned and enclosures (permission having been obtained from the Colonial Secretary) to His Excellency the Governor of Newfoundland, for the consideration of his Ministers, and with a request that they will indicate, at the earliest convenient period, the nature of the regulations under which it is proposed

that Canadian subjects shall enjoy the rights of fishing and procuring bait in the territorial waters of Newfoundland.

“ ‘The Committee further recommend that Your Excellency be also moved to transmit a copy of this Minute to His Excellency the Governor of Newfoundland.’

“ ‘It is to be further observed that Sir G. William Des Vœux, Governor of Newfoundland, in his despatch of the 14th January, 1887, addressed to the Right Honourable Her Majesty's Principal Secretary of State for the Colonies, when urging the allowance of this Bill, argued entirely upon the grounds that it was aimed solely against foreign fishermen, and Sir G. William Des Vœux, in this despatch, stated:—

“ ‘I may mention that every day's delay is causing loss to this colony, in restricting preparations for next season's fishing; for the allowance of this Bill would be at once followed by a large increase in the number of British vessels employed in Bank fishing: and even now it is too late, in some cases, for arrangements that would enable advantage to be taken of the earliest portion of the season.

“ ‘Moreover, it is only fair to the French that if they are to be prohibited from procuring bait here during the coming season, they should be made aware of the fact at once, in order that they may restrict their operations accordingly, it being probable, as regards the large number of vessels which annually leave France for these fishing grounds, that preparations are being made already for their dispatch in order to enable them to obtain bait and commence fishing at the beginning of April; and thus, not merely in the interest of this colony and Canada, but for the sake of international comity, I would respectfully urge that, in the absence of a fixed decision against this measure, the delay which has already taken place in respect of its allowance should not be further prolonged.’

“ ‘Upon the 20th April, 1887, the Minister of Marine and Fisheries received, at Ottawa, the following telegram from the Government of Newfoundland:—

“ ‘We learn with surprise and regret that your Government apprehend our Bait Act will interfere with Canadian fishermen. I am authorized to give you fullest assurance no interference or hindrance whatever of Canadian fishermen contemplated. Act necessarily framed so as to confer upon Governor discretionary powers in granting licenses to sell or export bait, our only object being to prevent supply to foreign subsidized rivals. Fullest rights and privileges of all British fishermen to take or purchase for their own use, as hitherto enjoyed will be maintained. Please communicate this information to your representative or agents in London, to remove objection to our Act and promote Royal Assent.

(Signed) “ ‘ATTORNEY-GENERAL.’

“ ‘In June 1889, the Legislature of Newfoundland passed “An Act to Amend and Consolidate the Laws relating to the Exportation and Sale of Bait Fishes.” This Act (June, 1889) was proclaimed by his Excellency Sir Terence O'Brien, Governor of Newfoundland, the 3rd April, 1890.

“ ‘By the provisions of this Act, as stated by the Colonial Secretary of Newfoundland to Cecil Fane, Esq., under date 15th April, 1890, ‘all foreign and British vessels not belonging to this colony which required bait from our coasts for the prosecution of the cod fishery can only obtain it by taking out a license at an ordinary port of

entry in the form herewith, and giving bond in the sum of \$1,000 that the bait shall be used *bonâ fide* for the purposes for which it is obtained.

“This license is issued on payment of a fee of \$1 per ton, and entitles the holder to purchase the bait for three weeks, but only to the extent of one barrel per ton register.

“Should fresh supplies of bait be required after the expiration of three weeks the vessel must re-enter at a Customs port and again take out a license on similar terms to the first, and so on through the fishing season. Light dues will of course be exacted as heretofore.”

“Loud complaints have reached the undersigned from Canadians interested in Bank fishing against this legislation, which threatens most serious injury to a large and important portion of Canadian industry. It is represented by those engaged in the cod fishery from Nova Scotia that the effect of this heavy tax will be to destroy the Bank fishing of that Province.

“The returns for the last year show that of Canadian vessels engaged in the Bank fishery there were not less than 203, with a tonnage of 18,124. The total catch amounted to 35,821,871 lbs. of fish.

“Accordingly, on the 24th April Your Excellency was pleased to approve of a Minute in Council recommending that a telegram be sent to the Right Honourable the Secretary of State for the Colonies, expressing the desire of Your Excellency's Government that a remonstrance should be made to Her Majesty's Government on the restrictions placed on British ships owned or sailed by Her Majesty's subjects in Canada under the Newfoundland legislation referred to.

“From the telegram of the 8th May from the Right Honourable the Secretary of State for the Colonies to Your Excellency, it appears that Lord Knutsford does not consider the Bait Act *ultra vires*, and His Lordship supposes representations have been made direct to Newfoundland.

“The undersigned has not discussed the authority of the Legislature of Newfoundland to enact the legislation complained of; but he desires to call attention to the solemn assurance given by the Government of Newfoundland, of the definite and positive character already referred to, to the effect that it was not intended to enforce this Act against Canadian and British vessels, and that it would not be so enforced.

“It is therefore with surprise that the undersigned now learns that the provisions of the Act are being enforced against Canadian and British vessels, as well as against those of foreign countries, and he trusts that when the attention of the present administration of the Government of Newfoundland is called to the agreement of its predecessors in office, that in accordance with that understanding the provisions of the Act will no longer be enforced against British or Canadian vessels.

“It may not be out of place to refer to the friendly co-operation which has hitherto existed between the Governments of Canada and Newfoundland in connection with their respective fishery and commercial interests.

“Fishing-vessels of Newfoundland are now and have always been permitted to enjoy the inshore fisheries and port privileges of Canada, in common with those of Canada, and while light dues, harbour dues, and pilotage dues, are exacted

by the Government of Newfoundland from Canadian fishing craft, there are no corresponding taxes paid by the vessels of Newfoundland to the Dominion of Canada.

"Canada at present maintains, free of all charges upon shipping, five lights and four fog-signals on the coast of Newfoundland, and by liberal subventions serves many ports in Newfoundland by a mail and freight packet.

"The Bank fishery is now in an advanced stage, and the undersigned has the honour to recommend that the Government of Newfoundland be directly advised that the Canadian Government confidently expect that on a consideration of the facts connected with this legislation and of the relations hitherto existing between the Dominion of Canada and that colony, the Administration of the Newfoundland Government will be pleased to suspend the operations of the Act so far as it affects Canadian and British vessels.

"The undersigned further recommends that the Right Honourable the Secretary of State for the Colonies be informed that Your Excellency's advisers earnestly desire the immediate co-operation of Her Majesty's Government in preventing serious loss and damage being inflicted upon so many of Her Majesty's subjects as are interested in the important industry of the Bank fishery.

"Respectfully submitted,

"(Signed) CHARLES H. TUPPER,

"*Minister of Marine and Fisheries.*"

On the 20th June, 1890, a Minute of Council was adopted by the Governor of Newfoundland to the effect that from this date the vessels requiring capelin and squid may, instead of paying tonnage license, obtain a license to purchase the particular quantity of bait they require, by paying a license fee calculated at the rate of \$1 per barrel, but no vessel to take more than 40 barrels. It was represented, however, that in the opinion of the Canadian Government, this modification in no way met the objections to the Bill.

The subject was fully discussed on the occasion of the visit of the Honourable the Minister of Justice to England. Members of the Government of Newfoundland met Sir John Thompson and the High Commissioner and the question was to receive careful attention on the part of the Newfoundland Government on the return home of the delegation from that Government then in London.

I am not aware of any further communication having as yet been received from Newfoundland on this subject.

INTERNATIONAL SAWDUST.

The question of the injurious effect resulting from the deposit of sawdust and mill rubbish upon the salmon fishing in the River St. John, and especially in the head waters of the river, has for some time past engaged the attention of the Department.

In a Memorial from the owners of saw-mills on this river, praying for the exemption of their mills from the operations of the Fishery and Navigable Rivers Act, it was set forth that no law existed in the State of Maine on this subject, and that on that portion of the River St. John which formed the boundary line between

the United States and Canada there were at least eight or ten mills on the United States side to one on the Canadian side of the river, and that as all the sawdust from the mills on the Maine side were permitted to be carried into the river, without restriction, any benefit which could possibly result from a stringent enforcement of the law in New Brunswick would be very trifling, and outweighed many times by the injury to the milling business in that Province.

In consequence of the above statement, an exhaustive report, dealing with the question in all its aspects, was submitted to the Privy Council and as a result a Minute adopted, recommending that a copy of the report be transmitted through the usual channel to the Government of the State of Maine, in order that the question might be considered by the Government of that State and united action adopted by both the Canadian and State Governments.

The Department has been advised, through the usual channel, that the matter had been brought to the notice of the Governor of Maine, and that it would engage the attention of the Legislature of that State.

PROTECTION OF LABRADOR FISHERY.

A somewhat lengthy correspondence has taken place between this Department and the Quebec Board of Trade, relative to the protection of fish on the coast of Labrador. Owing to inaccurate information and an incomplete knowledge of the question, the Board claimed that seine and trap fishing, were injurious to the cod fishery. It was informed that this mode of fishing had been practised for many years on the coast, and that no specific charges, supported by facts, were ever made against the system. It was also explained that the Labrador fishery was altogether different from any other fishery in the Gulf, or on the sea-coast. The fishing season is short, lasting barely one month; sometimes only a week. When cod are schooling inshore, after capelin, they will not take the hook, however abundant the fish may be. Twine must then be used, or the fishery becomes a failure. Cod fishing is always uncertain, several unsuccessful years being generally followed by successive good ones. Last year was a good year.

PURSE SEINES.

The destruction that the use of these seines has worked in the mackerel fishery, both on the coasts of the United States and Canada, has ceased to be either a matter of doubt or controversy; the consideration, therefore, of remedial measures is of paramount importance.

By reference to Appendix 9 it will be seen with what unerring certainty, the decline of this fishery during the past few years has gone on, and although in particular localities the take of mackerel for the season of 1890 shows an increase, as a whole the catch has been less than any year in the history of the fishery.

Shore fishing in Canadian waters was, during the past season, carried on almost wholly by means of hook and line, and the high prices obtainable for mackerel, rendered the operations of the fishermen very profitable.

It is, of course, well understood that United States fishing vessels have, since the lapse of arrangements under the Washington Treaty, been prohibited from

fishing by purse seines, or any other means, within the territorial waters of the Dominion, but they have been, and are, free to pursue their fishing operations, outside such limits, in any manner they see fit. When it is remembered that during the season of 1885, the last in which United States vessels had free access to our inshore fisheries, the total catch was 330,000 barrels, while the catch during the past season was but a little over 100,000 barrels, it will be realized how startling the decrease has been. The fact, however, must not be lost sight of that the percentage of fish taken by our own fishermen within our territorial jurisdiction largely exceeded in 1889 that of 1885.

The United States Government realizing the disastrous falling off on its coasts of the mackerel fishery, but being unable to directly control or successfully prohibit the use of purse seines, to which such falling off was attributed, passed an Act prohibiting the landing of mackerel taken by means of these seines on any part of the coast of the United States, before the first of June in each year. As by this date many of these migratory fish had found their way to the coast of Nova Scotia and the Gulf of St. Lawrence, it will readily be seen that had the fish been at all plenty in the waters named, the seining operations of the United States vessels would, to a very much larger extent than was done, have been there carried on all such vessels being provided with purse seines.

To take any action looking to a restriction upon Canadian vessels in the use of purse seines, while those of the United States continue fishing operations therewith, would be manifestly unjust, and it was therefore deemed expedient to seek joint action on the part of the Governments of the United States and of Canada, having in view the abrogation of this mode of fishing to which may be directly traced the well nigh destruction of our valuable mackerel fishery.

On the 22nd May 1890 the following minute of the Privy Council was adopted, based upon your report, dealing with the whole question, and as directed by this minute, the subject was brought to the notice of the Government of the United States through the usual official channel:—

“ On a report dated 24th April, 1890, from the Minister of Marine and Fisheries, stating that the records of the Department of Fisheries are replete with reiterated complaints against the use of purse seines for the capture of mackerel, on account of their destructive nature.

“ The Minister observes that the principal arguments against this particular form of fishing engine are that a vast and alarming numbers of young and unmerchantable fish are destroyed, and while they at the period of destruction are of no commercial value, yet if allowed to remain in the water they would in course of time mature and keep up the supply of this fish. The effect of the purse seines upon the fish when schooling is to break up the schools: rendering the fish wild and shy, keeping them constantly on the move, an frequently causing them to disappear for a long time.

“ The Minister further observes that the Purse Seine is very fully described in Professor Brown Goode and associate's report as follows:—

“ “ The large seine used only in connection with the largest kind of seine boat is 190 to 225 fathoms in length, and 20 to 35 fathoms in depth when it is hung,

being deeper in the centre of the bunt than at the extreme wings, one of which, the 'boat end,' is from one to 10 fathoms deep, and the other, the 'dory end,' varies from about 7 to 15 fathoms in depth. It is made of three kinds of twine. The bailing piece, which is a section of the net occupying about 10 or 12 fathoms along the centre of the cork line, and having about the same depth as length, is made of the stoutest twine. Beneath this and composing the remainder of the bunt and extending to the bottom of the seine is a section knit of twine a size smaller. There is also a band of large twine 15 meshes in depth, extending along the cork line of the seine on either side of the 'bailing piece' to the extremity of each wing. The remainder of the net is made of smaller twine.

" 'A seine 300 fathoms in length is usually about 1,000 meshed deep, both in the bunt and in the wings. The strongest twine is placed at those points where the seine is subjected to the greatest strain. On the cork line are two or three sizes of corks, the largest being placed over the 'bailing piece,' the smallest generally at the ends of the wings. The cork in the middle of the seine is much larger than the rest, and is painted or covered with canvas in order that it may be easy to find the centre of the net either night or day. To one end of the cork-line at the upper corner of the wing which is first thrown out when the seine is set, is a buoy. The seine is hung to lines which are called the hanging lines. The lead line is placed as in an ordinary seine, and is weighted with sinkers about two ounces in weight, which are attached to it at intervals varying from a few inches to several feet. The arrangement of the pursing rings and bridle is described elsewhere. In a mackerel seine of 175 fathoms the bridles are about 15 to 18 feet in length, and the rings, which weigh $1\frac{1}{2}$ lbs. and are three inches in diameter, are fastened to the middle of each bridle. The middle ring is on the bottom of seine, opposite the middle cork already referred to, and is usually made of different metal from the other rings, or is larger, so that the centre of the bottom of the seine can be easily found. Small galvanized-iron blocks or pulleys are now used to a considerable extent instead of rings, and are found much better adapted for the purpose, since the purse line runs far easier through them. The purse-line extends through the rings, its centre is marked by a line tied around or tucked through its strands, but more frequently now by a brass swivel, into which the purse line is spliced, and which serves the double purpose of marking the centre of the line and preventing it from kinking.'

" Its early history is described thus : Captain E. J. Deblois of Portsmouth, Rhode Island, says :—

" 'The first purse seine that was made so far as I know, was made by John Tallman, the first, and Jonathan Brownell and Christopher Barker, in the year 1886. It was 264 meshes deep and 65 fathoms long. The purse weight was 56 pounds weight, and the blocks were the common single block, and they have to reeve the end of the purse line through the blocks before they put the purse weight overboard.'

"The Minister further observes that the first seine operated north of Cape Cod was used by Captain Nathaniel Adams of Gloucester, in the schooner 'Splendid,' in the year 1850, but it was not until about 1860 that it became generally used in a form similar to the present purse seine, since which time it has undergone great improvements and its destructiveness has been much enhanced, particularly within

the past two years, by the introduction of the steam seine boat. By the adoption of these steam propellers the boats are enabled to surround the schools of fish much more readily and with wonderful rapidity, besides which advantage is taken of the steam power to purse the nets. which can be done in this manner in an incredibly short space of time.

"The Minister further observes that it thus appears that this fishing engine may be said to have reached the height of its destructiveness, and in the face of the appended extracts from reports of fishery officers, total depletion of the sea coast fisheries seems to be what must inevitably follow the continuance of its use."

(See Appendix No. 9 to this Report.)

The Legislature of the State of Maine seemed to be fully alive to the baneful effects of this destructive method of fishing, for in the year 1883, that body passed an Act for the protection of migratory fish, prohibiting the use of the purse and drag seines for taking mackerel within any bay or inlet, not more than two miles wide, under a maximum penalty of \$200, (*Rev. Statutes of Maine*, '83, sec. 17, c. 40, p. 373) and later on, in 1885 this Act was amended to include bays three miles wide, and the extreme penalty increased to \$500, making the Statute read as follows:—

"Sec. 17. The taking of mackerel, herring, shad, porgies or menhaden, and the fishing therefor by the use of purse and drag seines is prohibited in all small bays, inlets, harbours or rivers, where any entrance to the same, or any part thereof, from land to land, is not more than three nautical miles in width, under a penalty upon the master or person in charge of such seines, or upon the owners of any vessel or seines employed in such unlawful fishing of not less than \$300, or more than \$500, to be recovered by indictment, or action of debt, one-fourth of the penalty to the complainant or prosecutor, and three-fourths to the county in which the proceedings are commenced, and there shall be a lien upon the vessels, steamers, boats and apparatus used in such unlawful pursuit until said penalty, with costs of prosecution is paid, but a net for meshing mackerel or porgies, if not more than 100 meshes in depth, and a net for meshing herring of not more than 170 meshes in depth, and a net for meshing shad of not more than 75 meshes in depth shall not be deemed a seine." (*Acts and Resolves of the State of Maine*, 1885, c. 261, p. 215.)

"And the Federal Legislature of the United States recognized the necessity for some restrictive measure, if even of only a partial nature, as is shown by the following law providing against the landing or importation of mackerel so caught between the 1st of March and the 1st day of June into the United States:—

"An Act relating to the importing and landing of mackerel caught during the spawning season.

"Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled. That for the period of five years, from and after the 1st day of March, 1888, no mackerel, other than what is known as Spanish mackerel, caught between the 1st day of March and the 1st day of June, inclusive of each year, shall be imported into the United States or landed upon its shores. Provided, however, that nothing in this Act shall be held to apply to mackerel caught with hook-and-line from boats, and landed in said boats, or in traps and weirs connected with the shore.

“‘Sec. 2. That section 4321 of the Revised Statutes is amended for the period of five years aforesaid, so as to read before the last sentence as follows:—‘This license does not grant the right to fish for mackerel, other than for what is known as Spanish mackerel, between the 1st day of March and the 1st day of June, inclusive of this year.’ ‘Or in lieu of the foregoing there shall be inserted so much of said period of time as may remain unexpired under this Act.’”

“‘Sec. 3. That the penalty for violation or attempted violation of this Act shall be forfeiture of license on the part of the vessel engaged in said violation, if a vessel of this country, and the forfeiture to the United States, according to law, of the mackerel imported or landed, or sought to be imported or landed.

“‘Sec. 4. That all laws in conflict with this law are hereby repealed.’
(Approved 28th February 1887.)

“Prof. Brown Goode (Sec V. Vol. I) says: ‘Opposition to the purse seine from 1870 to 1882.’

“‘Since the adoption of the purse seine no year has passed without a considerable amount of friction between the fishermen using this engine of wholesale destruction in the capture of mackerel, and those engaged in fishing with other forms of apparatus. Petitions to Congress and State Legislatures have been made from both sides, and in some instances laws have been passed by State Legislatures prohibiting the use of nenhaden seines, within certain specified tracts of water, such as the Chesapeake Bay. These laws, while especially antagonistic to the nenhaden fishery, were aimed chiefly at the purse seine as a means of capture and doubtless would have been equally prohibitory of mackerel fishing with purse seines, had this been attempted within the limits. * * * * In 1878, a delegation of fishermen from Portland, Me., and Gloucester, Mass., visited Washington for the purpose of securing the passage of a law prohibiting the use of purse seines in the mackerel fishery.’

“In 1877, the late Commissioner of Fisheries, Mr. Whitcher, in his annual report for that year, said: “The modes of fishing most objectionable amongst the fishermen, and not provided against by our fishery laws, are purse seines and trawls. Their use has been petitioned against from several sea-coast districts.” (*Supp. No. 5, 10th Ann. Rpt. Min. M. & F., 1877, p. lii.*)

“On the 27th March, 1879, the late Dr. Fortin, M.P., at one time commander of the fisheries protection vessel ‘La Canadienne,’ in forwarding to the Department a resolution of the County Council of Gaspé, strongly urging the abolition of purse seining along the shores of the Gulf of St. Lawrence, said: ‘No doubt it has been proved beyond question that those engines are too destructive to be tolerated much longer on our shores.’

“In a haul of the purse seine it frequently happens that there are enclosed say 100 barrels of fish, only a small portion of which are marketable, the remainder being thrown overboard dead, and sinking to the bottom, foul the ground and drive off the other fish.

“In evidence procured by the Department of Fisheries from 20 masters of United States’ and 10 masters of Canadian vessels, 14 of the former and 9 of the latter utterly condemned the purse seine as injurious to the fishery, and the

interests of the fishermen alike, not only from the total loss of the unmerchantable fish (which form a large proportion of the take), but from the defilement of the waters and bottom, and the consequent diversion of the schools of fish from their accustomed haunts.

"It must be remembered that while the mackerel cannot be caught by hook and line during the spawning season, since they will not bite at that time, the purse seines take them at all times. Captain John Nason, of the schooner 'Pendragon,' Gloucester, 40 years a mackerel fisher, says: 'All mackerel killed before 1st July in the Gulf are killed before spawning.'

"Captain John Staples, schooner 'Vesta,' Gloucester, 30 years a mackerel fisherman says: 'In the North Bay, before the 1st July, about two-thirds of the catch are female spawn mackerel, which of course are destroyed before spawning. Upon the least I should say that more than 100 barrels are destroyed for every barrel caught before the 25th July, in the North Bay.'

"The preponderance of the evidence by many others proved that at least half of the catch was killed before spawning.

"The effect upon the incoming schools of fishes can perhaps be appreciated, if it be remembered that the fishing fleet consists of, say 250 sail, each attended by two seine boats, in all 750 craft, large and small, manoeuvring within a distance of five miles from the shore, day and night, on an extent of 20 or 25 miles of coast, afterwards dispersing into squadrons of from 50 to 60 vessels.

"Apart from the damage to the fishing grounds by purse seines breaking up the schools of fish, the proportion of useless fish thrown overboard dead, as previously explained, with attendant deleterious results, is almost incalculable.

"The Minister desires to invite attention to the statistics of the mackerel importations in the State of Massachusetts for three decades: the first from 1850 to 1859, during which period the purse seine was not in use; the second from 1863 to 1872, ten years following the general introduction of the purse seine; the third from 1880 to 1889, after the purse seine had been continuously used for many years. (*15th Annual Report of the Boston Fish Bureau, 1889.*)

BARRELS OF MACKEREL INSPECTED.

| Year. | No. 1 Grade | Total catch. |
|---------------------|-------------|--------------|
| 1850 | 88,401 | 242,572 |
| 1851..... | 90,765 | 329,244 |
| 1852..... | 84,030 | 198,120 |
| 1853..... | 49,015 | 133,340 |
| 1854..... | 30,595 | 135,349 |
| 1855..... | 29,302 | 211,956 |
| 1856..... | 89,333 | 214,312 |
| 1857..... | 84,519 | 168,705 |
| 1858..... | 75,347 | 131,602 |
| 1859..... | 61,330 | 99,715 |
| Total | 682,637 | 1,864,915 |
| Yearly average..... | 68,263 | 186,491 |

| Year. | No. 1 Grade. | Total catch. |
|---------------------|--------------|--------------|
| 1863..... | 67,985 | 306,943 |
| 1864..... | 103,383 | 274,357 |
| 1865..... | 153,723 | 256,796 |
| 1866..... | 150,332 | 231,696 |
| 1867..... | 122,808 | 210,314 |
| 1868..... | 93,091 | 180,056 |
| 1869..... | 72,924 | 234,210 |
| 1870..... | 66,046 | 318,521 |
| 1871..... | 105,187 | 257,416 |
| 1872..... | 71,866 | 181,856 |
| Total..... | 1,007,345 | 2,454,265 |
| Yearly average..... | 100,734 | 245,426 |

| Year. | No. 1 Grade. | Total catch. |
|---------------------|--------------|--------------|
| 1880..... | 20,453 | 243,958 |
| 1881..... | 15,598 | 256,173 |
| 1882..... | 39,045 | 258,382 |
| 1883..... | 20,852 | 154,140 |
| 1884..... | 22,377 | 283,794 |
| 1885..... | 15,742 | 215,576 |
| 1886..... | 19,574 | 66,042 |
| 1887..... | 23,893 | 77,488 |
| 1888..... | 14,545 | 50,907 |
| 1889..... | 7,143 | 12,143 |
| Total..... | 198,222 | 1,618,603 |
| Yearly average..... | 19,822 | 161,860 |

"These figures reveal a most alarming decrease in the total catch of mackerel, and especially so in that of No. 1 grade, for during the first decade, without the assistance of this improved and destructive method of catching fish, the take was very large, being 1,864,915 barrels, or an average of 186,491, while of this quantity there was of No. 1 quality 682,637 barrels, an average of 68,263 barrels per annum.

"The next decade covers a period almost immediately following the general introduction of purse seines and, as is to be expected, shows an increased catch, the total take being 2,454,265, an average of 245,429 barrels per annum, while of No. 1 quality the catch was 1,007,345, a yearly average of 100,734 barrels. This productive state however, could not long obtain, as the fish could not withstand the enormous drain upon its marketable and immature product by the destructive purse seine.

"The last decade, which comes down to the year 1889, after about 20 or 30 years, use of purse seines, shows that notwithstanding the improvements of late years to enhance their effectiveness, a deplorable decline in the catch has taken place, for we find a total catch of only 1,618,603 barrels and an annual average of 161,860 barrels and of No. 1 Grade a total of 198,222, a yearly average of but 19,822 barrels.

SUMMARY.

| Years. | Total Catch. | Yearly Average. | No. 1 Quality. | Yearly Average. |
|--------------|--------------|-----------------|----------------|-----------------|
| 1850-59..... | 1,864,915 | 185,491 | 682,637 | 68,263 |
| 1863-72..... | 2,454,265 | 245,426 | 1,007,345 | 100,734 |
| 1880-89..... | 1,618,603 | 161,860 | 198,222 | 19,822 |

"Comparing the catch of the later decade with the aid of its perfected and destructive fishing engines, with that of the first decade, with its primitive modes of capture, an annual average decline in the total catch of mackerel of 23,631 barrels, and in catch of No. 1 Grade of 48,441 barrels appears.

"While the Minister of Marine and Fisheries is not prepared to state that this decline is due solely to the use of improved fishing engines, or that some other natural or minor causes may not affect the movements of the vast mackerel schools in approaching the shores, yet he is of opinion that enough evidence has been adduced to attribute the steady decrease in the size and superior quality marketed, mainly to the destruction of small and immature fishes and the breaking up of the schools by purse seines.

"The question now being dealt with is one of paramount importance to all interested in the deep sea fisheries of the Atlantic coasts of America, and it is submitted that some concerted action is necessary towards ameliorating the evil effects of this highly improvident method of fishing.

"The Committee concurring in the above report recommend that Your Excellency be moved to forward a copy hereof to the Right Honourable the Principal Secretary of State for the Colonies for submission to Her Majesty's Government with the request that it be brought to the notice of the Government of the United States of America, with the view to obtaining some International action or Legislation looking either to the prohibition or restriction of the use of purse seines as may be deemed advisable for the preservation of the mackerel fishery.

This Department has since been advised that the Secretary of State for the United States had expressed his willingness to give the subject his careful consideration, with a view to the adoption of concerted measures to diminish the mischief complained of. I am, therefore, losing no opportunity of collecting further data and evidence on this important question, that it may be available when the subject comes up for consideration.

The opposition to a restriction being placed on the use of these nets will, at the present time, probably be much less than it would have been up to a recent period, many of the fishermen having at last conceded the irreparable damage their use entailed, in the destruction of immense quantities of both immature and spawning fish.

"All which is respectfully submitted for Your Excellency's approval."

THE BEHRING SEA.

Although the usual number of Canadian vessels were engaged in "sealing" in the Behring Sea during the season of 1890, no seizures were made by the United States' cutters cruising therein.

The usual statutory proclamation, however, which the President is bound by law to issue "at a timely season in each year" was published.

The question of the right of the United States' Government to exercise jurisdiction outside of the territorial limit of that portion of the Behring Sea which it acquired from Russia is still the subject of diplomatic correspondence.

A complete record of this and of the negotiations since the inception of the Behring Sea difficulty has been compiled and is now in course of printing for submission to Parliament.

As the lease to the Alaskan Commercial Company expired in May, 1890, the Secretary of the United States' Treasury, in January of that year, invited tenders for the exclusive privilege of taking fur seals on the Islands of St. Paul and St. George of the Pribylov Group in the Behring Sea, commonly known as the Seal Islands for a term of twenty years from the 1st of May, 1890.

The principal difference in the proposed lease, and that held by the Alaskan Commercial Company, was the limitation of the number of seals to be annually killed, which it was provided should be under the new lease 60,000 for the first year, instead of 100,000 under the old lease, and for subsequent years the number was to be fixed by the Treasury Department. There was, however, one very important difference; the lease was awarded to the "North American Commercial Company," of San Francisco, at an annual rental of \$57,100, with a revenue tax or duty of \$2 per seal skin, in addition \$8.25 for every skin taken, instead of the terms obtaining in the old lease which were—a yearly rental of \$55,000 and a royalty of \$2.62 for each skin.

As the issue of the advertisement for tenders for a new lease indicated an intention on the part of the United States' authorities, regardless of the proposal of the Hon. Mr. Bayard for international action in looking to the establishment of a close season for seals in the Behring Sea, to continue the monopoly of the seal industry, which had existed for the past twenty years, regardless of any close season applicable to the breeding-ground or rookeries of the seals, it was deemed urgent that the attention of Her Majesty's Government should be called to the existing facts, as it was apprehended the lease might interfere with the proposed negotiations for a close season for seals in the Behring Sea. This was done by a Minute of Council, under date 14th January, 1890, based upon a very full report of this aspect of the question.

During the year the following claims have been submitted for presentation to the Government of the United States:—

Schooner "Minnie" for compensation for loss incurred by reason of seizure in the Behring Sea, and the removal of seal skins, guns and spears in September, 1889.

Schooner "Pathfinder," for seizure and detention in Neah Bay; the vessel having been recognized as one which had been seized and escaped during the previous year.

Schooner "Triumph," for boarding, searching and warning off the Behring Sea under threat of seizure, in 1887.

SCHOONER "W. P. SAYWARD."

This vessel as the record shows was seized in the year 1887, for sealing in the Behring Sea, and was condemned to forfeiture by the District Court of Alaska.

This case was taken on appeal by the owners of the vessel to the Supreme Court of the United States. The Canadian Government having undertaken on behalf of the owners the further prosecution of the case, decided to abandon the appeal and with the concurrence of the Imperial Government moved the Supreme Court of the United States for a writ of prohibition directed to the Alaska Court, forbidding it further to proceed in the matter, upon the ground that the offence, if any, was committed beyond the territorial jurisdiction of the municipal courts of the United States.

That course was adopted, and on the 2nd February the Supreme Court of the United States decided to give the Government an opportunity of arguing the matter fully, and such argument will be had on the 13th April next.

CONCLUSION.

It will be seen from the foregoing pages that the work of the Department is rapidly extending, that new and important regulations affecting the fishing industries of the Dominion have been adopted, while others are engaging the Department's earnest enquiry.

The reports of several Inspectors and the statistics of the catch which with other matter not now available will, as stated, form the subject of a Supplementary Report. I cannot at this moment write definitely as to the fishing operations of the year, but sufficient data is at hand to reveal a fairly successful season's fishing.

It is gratifying to be able to record an increasing appreciation of the protective regulations regarding the fisheries on the part of those in whose interests they were and are especially designed.

I have the honour to be, Sir,

Your obedient servant,

JOHN TILTON,

Deputy Minister of Fisheries.

PART I.

APPENDICES.

APPENDIX No. 1.

SCHEDULE of Fishery Officers in the Dominion of Canada for the Year 1890.

PROVINCE OF ONTARIO.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|------------------------|-------------|----------------------|---|
| Thomas A. Keefer | Overseer... | Port Arthur | About 270 miles of the waters along the north shore of Lake Superior, extending from Pigeon River to Slate Island. |
| Harry Wilson | do | Jackfish Bay | That portion of the waters of Lake Superior, in the neighborhood of Jackfish Bay. |
| O. O'Donnell | do | Mamainse | That portion of the waters of Lake Superior, in the neighborhood of Mamainse. |
| Jos. Wilson | do | Sault Ste. Marie.. | That portion of the waters of Lake Superior, extending from Sault Ste. Marie to the Slate Islands. |
| A. Brinkman | do | Manitowaning | That portion of the waters of Georgian Bay, extending from Manitowaning to and including South Bay, also the waters surrounding Club, Lonely, Fitz, William and other Islands in the neighborhood of Manitoulin Island. |
| J. K. McDonald | do | Toronto | Lake Kagewong, Manitoulin Island. |
| Isaac Turner | do | Little Current | That portion of the waters of the North Channel of Lake Huron, in the vicinity of Little Current. |
| Robert Boyter | do | Gore Bay | That portion of the waters of the North Channel of the Lake Huron, in the vicinity of Gore Bay, Manitoulin Island. |
| Chas. Gauthier | do | Algoma Mills | That portion of the waters of the North Channel of Lake Huron, in the vicinity of Algoma Mills. |
| Frank Prout | do | Bruce Mines | That portion of the waters of the North Channel of Lake Huron, in the vicinity of Bruce Mines. |
| John Marks | do | Marksville | That portion of the waters adjoining St. Joseph and other Islands, in the North Channel of Lake Huron. |
| D. Cameron | do | Killarney | That portion of the waters of Georgian Bay, extending from Collin's Inlet to Whitefish River, including Squaw Island and the surrounding waters. |
| F. G. M. Fraser | do | Victoria Harbour. | That portion of the waters of Georgian Bay, extending from Point Marks to Collin's Inlet, with islands opposite, and including the mouths of Severn and Muskoka Rivers. |
| John Donaldson | do | Collingwood | That portion of the waters of Georgian Bay, extending from Point Boucher to Point Marks, including Christian, Beckwith and other Islands and the surrounding waters; also Nottawasaga River. |
| G. S. Miller | do | Owen Sound | That portion of the waters of Georgian Bay, extending from Colpoy's Bay to Point Boucher. |
| John Shackleton | do | Wiarton | That portion of the waters of Georgian Bay, extending from Cape Hurd to and including Colpoy's Bay, also the waters surrounding White Cloud, Griffith's and Hay Islands. |
| John Hoar | do | Lafontaine | About 18 miles of the waters of Georgian Bay, around Christian Island. |

SCHEDULE of Fishery Officers, &c.—*Continued*,
PROVINCE OF ONTARIO—*Continued*.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-----------------------|--------------|-----------------------|--|
| R. H. Murray..... | Overseer.... | Allenford..... | About 70 miles of the waters of Lake Huron, from Cape Hurd to Southampton, beside the inland waters of the County of Bruce, south of division line between Amable and Albermanle, comprised within an area of about 800 square miles. |
| H. W. Ball..... | do | Goderich..... | About 60 miles of the waters of Lake Huron, from Southampton to Goderich. |
| H. B. Quarry..... | do | Parkhill..... | About 65 miles of the waters of Lake Huron, extending from Goderich to Blue Point. |
| J. C. Pollock..... | do | Forest..... | About 45 miles of the waters of Lake Huron and St. Clair River, extending from Blue Point, on Lake Huron, to Baby's Point in River St. Clair. |
| C. W. Raymond..... | do | Mitchell's Bay.... | About 30 miles of the waters of Lake St. Clair, from Little Lake to its head. |
| A. Quenneville | Warden.... | Stony Point | About 10 miles of the waters of Lake St. Clair, from division line between Dover, East and West, to Stony Point. |
| Joseph Boismier..... | Overseer.... | Sandwich | About 20 miles of the waters of Lake St. Clair, from Stony Point to Detroit River. |
| Wm. Prosser..... | do | Leamington | About 50 miles of the waters of Lake Erie, from the mouth of Detroit River to Point Pelee. |
| David Girardin..... | do | Point Pelee..... | About 50 miles of the waters of Lake Erie, around Point Pelee Island and adjacent islands. |
| Horace Bartlett..... | Warden.... | North Harbour Island. | About 20 miles of the waters of Lake Erie, around North Harbour and Middle Sister Islands. |
| John McMichael..... | Overseer.... | Blenheim..... | About 110 miles of the waters of Lake Erie, fronting on the Counties of Kent and Elgin. |
| David Sharp..... | do | Port Ryerse | About 70 miles of the waters of Lake Erie, fronting on the Counties of Norfolk and part of Haldimand as far as South Cayuga. |
| W. A. McRae | do | Dunnville..... | About 10 miles of the waters of Lake Erie, from Cayuga to Moulton Bay and Grand River (30 miles), from mouth to Caledonia. |
| Charles W. Evans..... | do | Cayuga | The waters of Grand River, from the Division Line between North Cayuga and Canborough, on the east, to Caledonia, on the west. |
| Peter Price | do | St. Williams..... | About 30 miles of the waters of Lake Erie, around Long Point Island. |
| Fred. Kerr..... | do | Hamilton..... | About 50 miles of the waters of Lake Ontario, from Brant House, Burlington Beach, to Niagara, including the Niagara River, 50 miles; in all, 100 miles. |
| Wm. Sargent | do | Bronte..... | About 20 miles of the waters of Lake Ontario, extending from Port Credit to Burlington Beach, at Brant House. |
| Wm. Helliwell..... | do | Highland Creek... | About 26 miles of the waters of Lake Ontario fronting on the County of York. |
| Chas. Gilchrist..... | do | Port Hope..... | About 40 miles of the waters of Lake Ontario fronting on the County of Northumberland. Together with Rice Lake and tributaries, about 60 square miles of water. |
| W. P. Clarke | do | Belleville..... | Bay of Quinté, comprising about 80 miles of coast line of Counties of Prince Edward and Hastings, from Carrying Place to opposite Mill Point. |
| Joseph Redmond..... | do | Picton..... | About 90 miles of the waters of Lake Ontario fronting on the County of Prince Edward. |
| A. D. Silla..... | do | Napanee..... | About 35 miles of the waters of Lake Ontario fronting on the Counties of Lennox and Addington, and upper part of Amherst Island; also the inland waters of the Counties of Lennox and Addington, comprised within an area of about 1,600 square miles. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF ONTARIO—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|------------------------|--------------|---------------------|---|
| R. R. Finkle | Overseer... | Bath..... | About 25 miles of the waters of Lake Ontario fronting on the Township of Earnestown in the Counties of Lennox and Addington, and the lower part of Amherst Island. |
| A. H. Crosby..... | do | Forest | That portion of the waters of Bay of Quinté from Three Brothers' Island, near Kingston, to Trenton, at the head of the Bay. |
| Peter Kiel..... | do | Wolfe Island | About 60 miles of the waters of Lake Ontario around Wolfe, Simcoe, Horseshoe and Pigeon Islands. |
| Thomas Merritt..... | do | Kingston | About 20 miles of the waters of Lake Ontario fronting on the Township of Pittsburgh and Kingston, County Frontenac, including part of Bay of Quinté and River St. Lawrence. |
| John Cox..... | do | Howe Island..... | About 16 miles of the waters of Lake Ontario and River St. Lawrence, around Howe Island. |
| Nassau Acton..... | do | Gananoque..... | About 6 miles of the waters of the River St. Lawrence, from Howe Island to Jack Straw Lighthouse, together with the waters around Admiralty group of Islands; also, Gananoque River, comprising 10 miles inland waters. |
| J. G. Wallace..... | Warden | Ivy Lea | About 10 miles of the waters of the River St. Lawrence, extending from Jack Straw Lighthouse to Rockport, including the islands therein. |
| Henry Hunt..... | do | Rockport..... | About — miles of the waters of River St. Lawrence around LaRue's Island. |
| John H. Davis..... | do | Gananoque..... | About — miles of the waters of the River St. Lawrence, extending from Sheriff's Point to head of Grenadier Island. |
| Wm. Pool..... | Overseer... | Rockport..... | About 32 miles of the waters of the River St. Lawrence, extending from Rockport to Prescott. |
| Sydney Pattison | Warden | do | About 32 miles of the waters of the River St. Lawrence from Gananoque to Brockville. |
| John Mooney..... | Overseer... | Maitland | About 60 miles of the waters of the River St. Lawrence from Brockville to Cornwall. |
| Robt. P. Boyd..... | do | Lyn..... | About 6 miles of the waters of the River St. Lawrence, extending 3 miles above and 3 miles below Cole's Shoal Lighthouse. |
| T. McGarity..... | do | Cornwall..... | About 40 miles of the waters of the River St. Lawrence, fronting on the Counties of Stormont and Glengarry. |
| Pierre St. Pierre..... | do | Point Fortune..... | About 40 miles of the waters of the Ottawa River extending from Point Fortune to Wendover, in the County of Prescott. |
| Olivier Miron..... | do | Alfred | The waters of the South Nation River, County of Prescott, comprising about 50 miles of inland waters. |
| W. W. Boucher..... | do | South March..... | About 60 miles of the waters of the Ottawa River, fronting on the Counties of Russell and Carleton. |
| John Grant..... | do | Forester's Falls... | About 55 miles of the Ottawa River, fronting on the County of Renfrew from the foot of Upper Allumette Lake to Des Joachims, together with about 75 miles of inland waters, comprising Petewawa River and tributaries. |
| Archibald Acheson..... | do | Westmeath | About 25 miles of the Ottawa River, comprising Lower Allumette and Coulange Lakes. |
| J. S. Richardson..... | do | Sturgeon Falls... | The waters of Lake Nipissing, comprising about 160 miles, together with the Mattawa River, about 36 miles, and French River and tributaries, about 100 miles of inland waters. |
| George Thompson..... | do | Sudbury | Ramsay's Lake and other waters in the neighbourhood of Sudbury, Algoma District. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF ONTARIO—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-----------------------|--------------|-------------------|---|
| ..... | Overseer.... | Bracebridge | Inland waters of the Townships of Watt, Stephenson, Brunnel, Franklin, Monk, McAulay, McLean, Ridout, Muskoka, Draper, Oakley, Morrison and Ryde, in the District of Muskoka, comprised within an area of about 1,000 square miles. |
| Geo. R. Steele..... | do | Lorimer Lake..... | The inland waters of the Townships of Cowper, Foley, Christie, McDougall, McKellar, Ferguson, Carling, Shawanaga, Burpee, Hagerman, Brown and Wilson, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles. |
| J. G. Rumsey..... | do | Huntsville | The inland waters of the Townships of Chaffey, Cardwell, Stisted, Sinclair, Bethune, Monteith, McMurrich, Perry, Spence, Ryerson, Armour and Proudfoot, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles. |
| Wm. Lockhart..... | do | Denville .. | The inland waters of the Townships of Croft, Chapman, Strong, Jolly, Ferries, Lount, Machar, Laurier, Mills, Pringle, Gurd and Himsworth, in the Districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles. |
| Henry W. Gill..... | do | Ufford | Lakes Joseph, Rousseau, Three Miles Lakes, Skelton Lake and Muskoka Lake, and all waters west of said lakes to Georgian Bay, and from River Severn, inclusive, to the northern boundary of the Townships of Humphrey and Conger in the County of Simcoe and Districts of Muskoka and Parry Sound. |
| L. S. Sanders..... | do | Barrie..... | About 110 miles of the waters of the north shore of Lake Simcoe and its tributaries, Couchiching and Holland Rivers. |
| Wm. Hastings..... | do .. | Roach's Point.... | About 30 miles of the waters of the south shore of Lake Simcoe from Cook's Bay to Beaverton. |
| Fred. Webber..... | do | Orillia..... | About 40 miles of the waters of Lake Couchiching and Severn River in the County of Simcoe. |
| Wm. McDermot..... | do | Beeton | The inland waters of the South Riding of the County of Simcoe, comprised within an area of about 900 square miles. |
| H. McFayden | do | Durham | The head waters of Saugeen River and tributaries, comprising an area of about 1,000 square miles. |
| Patrick McCarron..... | do | Wallaceburg | The waters of Sydenham River and tributaries, comprising about 65 miles. |
| J. B. Moody..... | do | Waubuno..... | The north branch of Sydenham River, from junction with main river to its source, comprising about 20 miles. |
| Peter McCann. | do | London. | About 65 miles of the River Thames, from Wardsville to London. |
| John Crotty..... | do | Bothwell .. | About 25 miles of the River Thames, extending from Wardsville to Lewiaville. |
| Timothy McQueen..... | do | Chatham..... | About 25 miles of the River Thames, from Lewiaville to its mouth. |
| W. P. Croome..... | do | Brantford..... | About 150 miles of the waters of the Grand River and its tributaries, from Brantford upwards. |
| W. B. Jelly..... | do | Bowling Green.... | The inland waters of the North Riding of the County of Wellington, comprised within an area of about 600 square miles. |

SCHEDULE of Fisbery Officers, &c.—*Continued.*PROVINCE OF ONTARIO—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|--------------------------|----------------|---------------------|--|
| Andrew Hughson | Overseer | Orangeville | About 25 miles of the waters of River Credit, extending from Orangeville to Norval; together with the inland waters of the Townships of Mono, East Garafraxa, Amaranth, Albion and Luther, comprised within an area of about 500 square miles. |
| Robert Stewart | do | Claude | The inland waters of the County of Cardwell, comprised within an area of about 400 square miles. |
| Wellington Hull | do | Erin | The inland waters of the Townships of Eramosa, Erin, Caledon and Esquewaing, comprised within an area of about 400 square miles. |
| Alex. Blakely | do | Port Credit | About 1½ miles of the waters of the River Credit—from Norval to its mouth, in the County of Peel. |
| Nelson Simmons | do | Meyersburg | The waters of Trent River, in the Counties of Northumberland and Hastings, comprising about 80 miles. |
| J. R. Graham | do | Fenelon Falls | The inland waters of the North Riding of the County of Victoria, lying north of Fenelon Falls, and comprised within an area of about 800 square miles. |
| G. B. McDermot | do | Port Perry | About 22 miles of the waters of Lake Ontario, fronting on the County of Ontario, together with Lake Scugog, including Lindsay and Scugog Rivers, in the Counties of Durham, Victoria and Ontario, about 50 miles. |
| J. C. Bowen | do | Marmora | Crow Lake, Belmont Lake and Crow River, in the Counties of Hastings and Peterboro'. |
| Geo. W. Fitzgerald | do | Lakefield | The inland waters of the County of Peterboro', within the Townships of Harvey, Burleigh, Dummer, Douro, Smith and Ennismore. |
| David Breeze | do | Peterboro' | Otonabee River, extending from Peterboro' to Rice Lake, in the County of Peterboro'. |
| Wm. Gainforth | do | Haliburton | The waters of Gull and Burnt Rivers and tributaries, together with Drag, Eagle, Moose, Redstone, Crooked and other lakes, lying within the East Riding of the County of Peterboro', and comprised within an area of about 400 square miles. |
| B. H. Sweet | do | Bancroft | The inland waters of the Townships of Wollaston, Limerick, Cashel, Farraday, Dunganon, Mayo, Herschel, Monteagle, Carlow, McClure, Wicklow, Bangor, in the County of Hastings, and comprised within an area of about 1,000 square miles. |
| H. R. Purcell | do | Colebrook | The inland waters of the Townships of Camden, Portland, Loughboro', Sheffield and Kennebec, in the Counties of Addington and Frontenac, comprised within an area of about 500 square miles. |
| Robt. Gilbert | do | Ompah | The inland waters of the Townships of Palmerston, Clarendon, North Canonto, South Canonto and Miller, in the County of Frontenac, and comprised within an area of about 500 square miles. |
| George Lake | do | Tichbourne | The inland waters of the Townships of Bedford, Hinchinbrooke, Olden and Oso, in the County of Frontenac, and comprised within an area of about 400 square miles. |
| Samuel Boddy | do | Athens | Upper Beverley Lake, Bass Lake, Little Lake, Wilts Lake and Mud Lake, in the County of Leeds. |
| David Edgar | do | Lyndhurst | Lower Beverley Lake and tributaries to Morton and Lyndhurst and Griffin Lake, in the County of Leeds. |

SCHEDULE of Fishery Officers, &c.—*Continued.*
 PROVINCE OF ONTARIO—*Concluded.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-----------------------|--------------|--------------------|---|
| John Moorehead..... | Overseer.... | Lyndhurst..... | From Lyndhurst to the divisions line between Leeds and Lansdowne, in the County of Leeds. |
| James Greer..... | do | Warburton | Gananoque River from Marble Rock to division line between the Township of Leeds and Lansdowne, including South Gananoque and Round Lake and Cherry Pound, in the County of Leeds. |
| Wm. Hicks..... | do | Athens..... | The waters of Charleston Lake, in the County of Leeds. |
| Geo. Jeacle..... | do | Wesport..... | The waters of Rideau, Upper Rideau, Openicon, Otty, and neighbouring lakes, in the County of Leeds, comprised within an area of about 200 square miles. |
| John Murphy..... | do | Perth..... | The inland waters of the South Riding of the County of Lanark from the narrows between Upper and Lower Rideau Lakes to Smith's Falls, comprising about 25 miles. |
| Eph. Deacon..... | do | Bolingbroke..... | The waters of River Tay and tributaries and Fall Bay River, in the County of Lanark comprising about 35 miles. |
| Alexander Wilson..... | do | Carleton Place.... | About 60 miles of the waters of Mississippi River and Lake in the County of Lanark. |
| ..... | do | ..... | Rideau River and tributaries from Ottawa to Burritt's Rapids, including Jack River, in the County of Carleton, comprising 55 miles. |
| ..... | do | Braeside..... | The waters of Bonnechère River and lakes in the County of Renfrew, comprising about 45 miles. |
| M. L. Russell..... | do | Renfrew..... | The waters of Bonnechère River and tributaries, in the County of Renfrew, comprising about 50 miles. |
| Hugh Gallagher..... | do | Sebastapol..... | The inland waters of Townships Sebastopol, Radcliffe, Lyndoch and Gratton, in the County of Renfrew, comprised within an area of about 400 square miles. |
| ..... | do | Eganville..... | The waters of Mink and Doré Lakes in the County of Renfrew, comprising within an area of about 100 square miles. |
| Geo. Douglas..... | do | Snake River..... | The waters of Muskrat Lake and Snake River, in the County of Renfrew, comprised about 25 miles. |
| Joseph Bélanger..... | do | High Falls..... | The waters of Calabogie Lake and the inland waters of the Township of Bagot, County of Renfrew, comprised within an area of about 100 square miles. |
| R. J. N. Pither..... | do | Rat Portage | Lake of the Woods. (Indian Agent.) |
| Jas. McCracken..... | do | Contiching | Rainy Lake and Lake Seul. do |
| J. McIntyre..... | do | Fort William..... | Eagle Lake. do |
| J. P. Donelly..... | do | Port Arthur..... | Nepigon River. do |

PROVINCE OF QUEBEC—TIDAL DIVISIONS—SOUTH SHORE.

| | | | |
|------------------|---|------------------|--|
| Wm. Wakeham..... | Officer in charge of the Fishery Protection Str. "La Canadienne." | Gaspé Basin..... | Lower St. Lawrence River and Gulf..... |
|------------------|---|------------------|--|

SCHEDULE of Fishery Officers, &c.—*Continued.*
 PROVINCE OF QUEBEC—TIDAL DIVISIONS—SOUTH SHORE.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-------------------------|---------------|-------------------------------|--|
| J. A. Verge | Overseer | Cross Point. | The estuary division of the River Restigouche, extending from Point Maguasha to Head of Tide, on the Quebec side, and from Dalhousie to Head of Tide on the New Brunswick side, comprising about 60 miles. |
| Pierre Cyr..... | do | Nouvelle..... | About 35 miles of the waters of Bay Chaleurs, extending along the coast from Maguasha to Grand Cascapedia River, including the estuary thereof. |
| John Smith..... | do | New Carlisle..... | About 40 miles of the waters of Bay Chaleurs, extending along the coast from the mouth of Grand Cascapedia River to Paspebiac. |
| John Phelan..... | do | Port Daniel..... | About 30 miles of the waters of Bay Chaleurs, extending along the coast from Paspebiac to Point Macquereau. |
| Henry Jones..... | do | Little River West. | That portion of the waters of the County of Gaspé from corner of the Beach to Point Macquereau, including Bonaventure Island, Little Pabos, Grand Pabos and Grand Rivers. |
| Geo. F. Annette..... | do | Peninsula, Gaspé.. | That portion of the waters of the County of Gaspé from Cape Rosier to corner of the Beach, including Dartmouth, York, St. John and Malbaie Rivers. |
| Ant. Chevrier..... | do | Amherst..... | About 100 miles of the waters of the Gulf of St. Lawrence around the Magdalen Islands. |
| Joseph Lemieux..... | do | Montlouis..... | About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Gaspé, and extending from Cape Rosiers to Mountlouis. |
| Jos. I. Letourneau..... | do | Ste. Anne des Monts. | About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Gaspé, and extending from River Ste. Anne des Monts to Cap Chatte. |
| Johnny Joncas..... | do | Matane..... | About 54 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from Cap Chatte to River Blanche; together with the River Matane, comprising about 12 miles of inland waters. |
| L. E. Grondin..... | do | Rimouski..... | About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from River Blanche to Rimouski. |
| H. Martin..... | do | do | About 35 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Rimouski, and extending from Rimouski to the division line between the Counties of Rimouski and Temiscouata. |
| Nap. Levesque..... | do | Ile Verte..... | About 30 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Temiscouata. |
| Xavier Pelletier..... | do | Ste. Anne de la Pocatière. | About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the County of Kamouraska. |
| Eug. Pelletier..... | do | St. Roch des Aul- nais. | About 70 miles of the waters of the south shore of the River St. Lawrence, fronting on the Counties of L'Islet, Montmagny, Bellechasse and Lévis, extending from Ste. Anne de la Pocatière to Point Lévis. |
| L. P. Huot..... | do | St. Roch de Québec | About 50 miles of the waters of the north and south shores of the River St. Lawrence around the Island of Orleans. |
| U. Bhéreur..... | do | Malbaie..... | About 60 miles of the waters of the north shore of River St. Lawrence, fronting on the County of Charlevoix, and extending from River du Gouffre to the division line between the Counties of Charlevoix and Saguenay. |

SCHEDULE of Fishery Officers, &c.—*Continued.*
PROVINCE OF QUEBEC—TIDAL DIVISIONS—NORTH SHORE.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-----------------------|---------------|---------------------|--|
| L. N. Catellier | Overseer | Tadoussac | About 80 miles of the waters of the north shore of the River St. Lawrence, fronting on the County of Saguenay and extending from the division line between the Counties of Charlevoix and Saguenay to Bersimis; and the tidal waters of the River Saguenay from its mouth to Chicoutimi, comprising 70 miles; in all, 150 miles. |
| Jos. Boily | Warden | Milles Vaches | About 45 miles of the waters of the north shore of the River St. Lawrence, fronting on the County of Saguenay and extending from Escoumains to Bersimis. |
| N. A. Comeau | Overseer | Godbout | About 115 miles of the waters of the north shore of the River and Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Manicouagan to Baie des Rochers, including the estuaries of Godbout, Trinity and Pentecost Rivers. |
| T. Mignault | do | Montmagny | About 75 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Baie des Rochers to Point St. Charles, including the estuaries of Marguerite and Moisie Rivers. |
| Geo. L. Duguay | do | Murray Bay | About 105 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Point St. Charles to Esquimalt Point, including the estuaries of the St. John and Mingan Rivers. |
| Geo. Gaudin | do | Nataashquan | About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Esquimalt Point to Nataashquan River, including the estuaries of the Rivers Agwanus, Nabissippi and Nataashquan. |
| G. Mathurin | do | Montmagny | About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from River Nataashquan to Cape Whittle, including the estuaries of Washeecoutai, Kegashca, Musquarro and Olomonosheebou Rivers. |
| Jean Legouvé | Warden | Pacachoo | About 140 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Cape Whittle to Checatca. |
| W. H. Whitely | do | Bonne Espérance .. | About 65 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the County of Saguenay and extending from Checatca to Blanc Sablon, the boundary line between Quebec and Newfoundland, on the coast of Labrador, including the estuary of the Esquimalt River. |

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS.

| | | | |
|---------------------|---------------|---------------------|---|
| Alf. Blais | Overseer | Causapescal | About 30 miles of the waters of Lake and River Metapedia, in the County of Metapedia, from head of Lake to Causapescal. |
| George Gagnon | Warden | St. Hubert | The inland waters of the County of Temiscouata, comprised within an area of about 2,000 square miles. |
| Henri Côté | do | Baie St. Paul | Lakes in rear of Murray Bay and Bay St. Paul. |
| Edward Martin | do | do | do |
| Jos. Simard | do | Ste. Agnes | do |

SCHEDULE of Fishery Officers, &c.—Continued.
PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—Continued.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-------------------------|--------------|---------------------|---|
| J. F. Picotin..... | Warden | Drummondville... | About 60 miles of the River St. Francis, in the Counties of Yamaska and Drummond, extending from its mouth to Richmond. |
| N. A. Beach..... | Overseer.... | Georgeville..... | The waters of Lake Memphremagog, in the Counties of Brome and Stanstead, comprising about 50 miles. |
| P. C. Bourke..... | do | Somerset | The inland waters of the County of Megantic, comprised within an area of 850 square miles. |
| J. Laberge..... | Warden | Chateauguay..... | About 40 miles of the waters of the River St. Lawrence, fronting on the County of Chateauguay, including Chateauguay River. |
| John Kelly..... | Overseer.... | Beauharnois | About 50 miles of the waters of River St. Lawrence, fronting on the Counties of Beauharnois and Huntingdon; together with about 35 miles of the waters of Chateauguay and Trout Rivers. |
| J. O. Dion..... | do | Chambly | About 42 miles of the Richelieu River, extending from Sorel to Richelieu Village. |
| J. B. Chevalier..... | do | Iberville | About 30 miles of the waters of Richelieu River, extending from St. John to Lake Champlain. |
| P. E. Luke..... | do | Philipsburg..... | About 15 miles of the waters of Missisquoi Bay and Pike River, in the County of Missisquoi. |
| P. W. Nagle..... | do | Sherbrooke | The inland waters of the County of Stanstead, comprised within an area of about 540 square miles. |
| Joel Shurtleff..... | do | Compton | The inland waters of the County of Compton, comprised within an area of about 1,600 square miles. |
| A. L. Darche..... | do | Sherbrooke.. .. | About 10 miles of the waters of Lake Megantic, in the County of Megantic. |
| J. B. McDonald..... | do | Echo Vale | About 10 miles of the waters of Lake Megantic, in the County of Megantic. |
| W. G. Greene..... | do | Brome Lake..... | Brome Lake. |
| John McCaw..... | do | Sherbrooke..... | Lakes in Counties of Megantic and Wolfe. |
| V. Veilleux..... | Warden | St. Ephrem de Tring | The inland waters of the County of Beauce, comprised within an area of about 1,600 square miles. |
| Jos. Lambert.. .. | Overseer.... | Three Rivers..... | About 25 miles of the River St. Lawrence and Lake St. Peter, fronting on the County of St. Maurice. |
| Denis Shooner..... | do | St. François du Lac | That portion of Lake St. Peter fronting on the County of Yamaska and the River St. Francis within the limits of the said county. |
| Geo. Boisvert..... | do | Bécancour | About 36 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the County of Nicolet. |
| Jos. Gingras..... | do | Rivière David.... | About 30 miles of the waters of Yamaska River, in the Counties of Yamaska and St. Hyacinthe. |
| Joseph Charbonneau..... | do | St. Césaire..... | Yamaska River and its tributaries from West Farnham to St. Hughes, including Black River. |
| J. A. Grant | do | Louiseville..... | About 35 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the Counties of Maskinongé and Berthier, including the islands in front. |
| Jos. Boivin..... | do | River Beaudet.... | About 20 miles of the waters of the River St. Lawrence, fronting on the County of Soulanges, and extending from Point Beaudet to Coteau Landing. |
| Narcisse Lavallée..... | Warden | Sorel..... | That portion of the waters of the River St. Lawrence fronting on the County of Richelieu, including the islands therein. |
| John Morris..... | Overseer.... | St. Lambert | About 50 miles of the waters of the River St. Lawrence, fronting on the Counties of La Prairie, Chambly and Verchères. |

SCHEDULE of Fishery Officers, &c.—Continued.
PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—Concluded.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|--------------------------|--------------|-------------------|--|
| André Robert..... | Overseer.... | Lachine..... | About 15 miles of the waters of the River St. Lawrence, fronting on the County of Jacques Cartier. |
| Julien Montpetit..... | do | Isle Perrot..... | About 15 miles of the waters of the River St. Lawrence, surrounding Isle Perrot. |
| Jos. Lauzon | do | Terrebonne. | The Rivers Jesus and Des Prairies, comprising about 50 miles. |
| Jos. Filiatrault..... | do | Ste. Adèle..... | The inland waters of the Townships of Morin and Beresford, in Terrebonne and Wolfe Counties, and de Salaberry and Grandison, in Argenteuil County, comprised within an area of about 500 square miles. |
| Toussaint Cloutier | do | Piedmont | The inland waters of the Townships of Abercrombie, Wexford and Kilkenny, in Terrebonne and Montcalm Counties, comprised within an area of about 300 square miles. |
| R. W. Jones..... | do | St. Andrews..... | About 15 miles of the waters of the north side of the Ottawa River, extending from Oka to Carillon. |
| Theo. Sabourin..... | do | Rigaud | About 30 miles of the waters of the south side of the Ottawa River, extending from Cascades to Point Fortune. |
| Pierre St. Pierre..... | do | Point Fortune.... | About 40 miles of the waters of the Ottawa River, extending from Calumet to Carillon. |
| Jos. Marion | do | Hull..... | The waters of the Ottawa River, fronting on the County of Ottawa, comprising about 75 miles. |
| Ed. Mohr..... | do | South Onslow.... | The waters of the Ottawa River, fronting on the County of Pontiac, extending from the division line between the Counties of Ottawa and Pontiac to Fort Coulonge, and comprising about 50 miles. |
| J. T. Coghlan | do | Chapeau | The waters of the Ottawa River, fronting on the County of Pontiac, extending from Fort Coulonge to Des Joachims, and comprising about 75 miles. |
| Robt. Joynt..... | Warden | Joynt | The inland waters of the Townships of Masham, in the County of Ottawa, including Bernard Lake, comprised within an area of about 90 square miles. |
| Emiel Weisener..... | Overseer.... | Blanche..... | The waters of the Townships of Mulgrave and Lathbury, Ottawa County. |

PROVINCE OF NOVA SCOTIA.

| | | | |
|--------------------|-------------------------|---------------------------------|--|
| A. C. Bertram..... | Inspector of Fisheries. | North Sydney | District No. 1, comprising the Island of Cape Breton. |
| Robert Hockin..... | do | Pictou | District No. 2, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants. |
| J. R. Kinney..... | do | Yarmouth..... | District No. 3, comprising the Counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's. |
| | | Annapolis County. | |
| Bailey, W. M | Overseer.... | Round Hill.... | The County of Annapolis. |
| | | Antigonish County. | |
| Aymer, J. R | Warden.... | Pomquet Forks, Antigonish | From mouth of harbour to Forks; from thence on the Pomquet River to V. Chisholm's Mills, and from Forks, on the Black River, to Falls. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|---|--------------|--------------------------------------|---|
| <i>Antigonish County</i> —Continued. | | | |
| Cameron, Lochlin..... | Warden.... | Upp'r South River, Antigonish.... | From McWilliam's Bridge to head of lake. |
| Chisholm, Hugh..... | do..... | Lower South River, Antigonish.... | From Antigonish Harbour to McWilliam's, or St. Andrew's Bridge. |
| Chisholm, Donald..... | do..... | Salt Springs, An- tigonish..... | From Trotter's Mill Brook to W. Thompson's Dam. |
| Dexter, Jno..... | do..... | Antigonish..... | From Antigonish Harbour (foot of marsh) to Trotter's Mill Brook; thence up said brook to Trotter's Mill, including both branches of West River and Bailey's Brook. |
| Fraser, Duncan..... | do..... | St. Joseph..... | From Pinketown Bridge to Stewart's Mills. |
| Macadam, Alex..... | do..... | West River..... | From Thompson's Dam to Addington Forks Bridge. |
| McDonald, John..... | Overseer.... | Doctor's Brook.... | Antigonish County. |
| McDougall, Arch'd..... | Warden.... | McNair's Cove, Cape George.... | From John McDonald (Bun's) Cove, north side of Cape George, to Crebbing Head, St. George's Bay. |
| Randall, Albert..... | do..... | Bayfield..... | From shore to Lake. |
| <i>Cape Breton</i> <i>County.</i> | | | |
| Barrington, York..... | Overseer.... | Sydney Mines.... | North of East Bay to Head of Sydney River, including part of Boularderie Island. |
| Burke, William..... | do..... | Main-à-Dieu..... | Main-à-Dieu and Mira Bay. |
| Burke, Wm..... | Warden.... | Burk's Bridge, Mira River.... | Mira Bridge and Trout Brook. |
| Curry, James N..... | do..... | Sydney Forks..... | Sydney River and Forks. |
| Howie, Donald..... | do..... | do..... | do..... |
| Fleming, Michael..... | do..... | Little Bras d'Or.... | Little Bras d'Or District. |
| Keeffe, P..... | do..... | Lingan..... | North-West Brook, Grand Lake and tributaries. |
| Morrison, Angus..... | do..... | Marion Bridge, Mira..... | Marion Bridge, Mira. |
| McAdam, Allan..... | do..... | Eskasoni..... | Eskasoni. |
| McCormack, Donald.... | do..... | Leitch's Creek.... | Leitch's Creek and George's River. |
| McDonald, Alex..... | Overseer.... | East Bay..... | South of East Bay to Salmon River. |
| McDonald, Archibald.... | Warden.... | Ball's Creek..... | Ball's Creek. |
| McEachen, Jno..... | do..... | Grand Mira, North | Salmon River. |
| McLean, Alex..... | do..... | Boisdale..... | Mill Brook. |
| McLellan, M..... | do..... | Rory Brack's Brook | Rory Brack's Brook. |
| McNeil, D. J..... | do..... | Benacadie River.. | Benacadie River and Lake. |
| Quinan, Francis..... | Overseer.... | Sydney..... | From Low Point to south head of Cow Bay, and north side of Mira Bay, including Salmon and Sydney Rivers. |
| <i>Colchester County.</i> | | | |
| Corbett, H..... | Warden.... | Five Islands..... | Harrington and North Rivers. |
| Davison, J. W..... | Overseer.... | Upper Economy.... | Colchester County, Western Division. |
| Fraime, Samuel..... | Warden.... | Shubenacadie Riv. | Shubenacadie River and Gay's River. |
| Fulton, George..... | do..... | Stewiacke..... | Stewiacke River (upper portion). |
| Fulton, R. K..... | do..... | River, Brookfield) | DeBert River. |
| Fulmer, Jesse..... | do..... | Folly Village..... | East and Bass Rivers. |
| Gass, H..... | Overseer.... | Five Islands..... | Northern Division, County Colchester, compris- ing Tatamagouche Bay, French and Waugh's Rivers. |
| Johnson, A. O. B..... | Warden.... | Tatamagouche.... | Lower Stewiacke River. |
| Johnson, T..... | do..... | Middle Stewiacke. | Salmon River. |
| Moore, George..... | do..... | Salmon Riv., Truro | Economy River. |
| Murray, Math. G..... | do..... | Economy..... | Salmon River. |

SCHEDULE of the Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-------------------------------------|----------------|--|---|
| <i>Colchester County—Continued.</i> | | | |
| McKay, Dan | Warden | Tatamagouche Riv. | Waugh's River. |
| Pollock, R. J. | Overseer | Lower Stewiacke .. | Stewiacke River (lower portion). |
| Rutherford, Ed. | Warden | Stewiacke | Stewiacke River. |
| Urquhart, Hy | do | Folly Village | Folly River. |
| <i>Cumberland County.</i> | | | |
| Fowler, Elijah | Overseer | Parrsboro' | Cumberland County, Western Division, including all streams flowing into the Bay of Fundy. |
| Gilroy, Geo. W | do | Oxford | Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland. |
| Harrison, Moses | Warden | Maccan | Maccan River. |
| Jenks, Frs. L. | do | Parrsboro' | Parrsboro' Head. |
| Logan, Isaac | do | Amherst Point .. | Laplanche and Nappan Rivers. |
| Murphy, Wm | Overseer | Wallace | Wallace River. |
| McPherson, Samuel .. | Warden | Pugwash River .. | Pugwash River. |
| Porter, Jos | do | River Herbert .. | River Herbert. |
| Smith, Sydney | do | Advocate Harbour .. | Apple River. |
| Smith, Thos. R. | do | Shinimicas River .. | Shinimicas River. |
| Taggart, Pat. | Overseer | Pugwash | Smelt and oyster fisheries at Pugwash. |
| Wills, Alex. M | Warden | Moose River | Moose and Harrington Rivers. |
| <i>Digby County.</i> | | | |
| Collins, J. A | Overseer | Westport | Western Division of Digby County, comprising the waters of St. Mary's Bay. Long and Brier Islands. |
| J. W. Cosseboom | do | Roseway | Eastern Division of Digby County, comprising the waters of Digby County, except those of St. Mary's Bay, and around Long and Brier Islands. |
| Journey, Robt | Warden | Weymouth | Sissiboo River. |
| McKay, Lochlin | do | Barton | St. Mary's Bay. |
| Potter, Chas. T. | do | Joggins' River .. | Joggins River to Bear River. |
| <i>Guysboro' County.</i> | | | |
| Bruce, J. R. | Warden | Guysboro' | From mouth Clam Harbour River to Upper Falls. |
| Cameron, Angus | do | East River | East River, St. Mary's. |
| Cameron, D., sen | do | Upper Caledonia .. | West River, St. Mary's, from Wallace's Bridge to head of River. |
| Cross, John | do | Indian River | Indian River, from mouth to source, District of St. Mary's. |
| Gunn, Donald | do | Cross Roads | From mouth of Scott's Place, to Country Harbour Lake, including Gunn's Brook, from Main River to Hurley's Lake. |
| Henderson, Jas. | do | Isaac Harbour | Isaac Harbour and River. |
| Hudson, Samuel (Lewis son) | do | Country Harbour .. | Country Harbour and River, from Bridge at Narrows to Mouth. |
| Jones, John | do | Mouth of Salmon River | Mouth of Salmon River. |
| Jordan, Wm | do | Glenelg | St. Mary's River, extending from Alex. Ross' (above still water) to Hugh Halters', on the West River. |
| Kenny, Chas. | do | Salmon Riv., West Branch Guysboro' | From foot of Neil's Lake to Beaver Dam Lake, inclusive, and all the lakes through which it passes. |
| Manson, Alex. | do | Lochaber Lakes .. | St. Mary's River, from Wallace's Lake to Fischer's Mill Dam. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|--|--------------|---------------------------------------|---|
| <i>Guysboro' County</i> — <i>Con.</i> | | | |
| Mattie Frederick | Warden | Tracadie, County of Antigonish.... | Tracadie River to Counties of Guysboro' and Antigonish. |
| Munroe, W. M. | do | Cole Harbour.... | Cole Harbour River. |
| McDonald, Wm. | do | Stillwater.... | St. Mary's River. |
| McKay, Robt. | do | Guysborough, In- tervale | From head of tide to head of Intervale, on the North Branch, and to Cameron's Mill, on the Valley Branch. |
| McKeen, Thos. | do | Melrose | From Forks to County Line, including McQueen's Mill and Brook to Lake. |
| McEllum, Jas. | do | Salmon River.... | From Graham's West Line to foot of Neil's Lake, including North Branch and Lake. |
| McGrath, Adam.... | do | Cross Roads, St. Mary's | From junction of Antigonish Branch, St. Mary's River, to the head of Two Mile Lake. |
| McQuarrie, Allan.... | Overseer.... | Sherbrooke.... | District of St. Mary. |
| Pride, Wm. | Warden | Sherbrooke, St. Mary's | From mouth of St. Mary's River to Sinclair Point, including stream from Wine Harbor to Lake. |
| Sinclair, Robt. | do | Goshen | Eight Island Lake, from Sinclair's Mill to head waters. |
| Smith, J. L. | do | Cross Roads | From Cross Road Bridge, County Harbour River to Eight Island Lake. |
| Smith, J. P. | do | West River.... | From H. Hattie's north-line to Indianman's Brook, including all tributaries. |
| Sears, George.... | do | Sherbrooke.... | Sherbrooke. |
| Tory, Jas. A. | Overseer.... | Guysborough.... | Guysborough County. |
| <i>Halifax County.</i> | | | |
| Blakely, Jas. | Warden | Ship Harbour.... | From Ship Harbour to Chezzetcook inclusive. |
| Coolen, Chas. | do | Shad Bay.... | Peggy's Cove to Torrence Bay, including Pro- spect and Nine Mile River. |
| Conrad, Chas. | do | Cole Harbour.... | Cole Harbour. |
| Fitzgerald, John.... | Overseer.... | Portuguese Cove.. | Halifax Harbor to Margaret Bay, Portuguese Cove. |
| Fraser, John. | Warden | Moser's River.... | Moser's River and Ecum Secum and Smith's Brook. |
| Fraser, O. P. | do | Ecum Secum, Co. Guysboro' | Ecum Secum River. |
| Henry, Chas. G. | do | Upper Musquod- oboit. | Upper Musquodoboit River. |
| Hughes, P. | do | Tangier River.... | Tangier River. |
| Hemlaw, Joshua.... | do | Nine Mile River. | Upper Nine Mile River. |
| Keizer, Geo. | do | Lake Porter.... | Lake Porter and Streams. |
| Leslie, Geo., senr.... | Overseer.... | Spry Bay.... | Halifax County, from Pope Harbour and Har- bour Island to Ecum Secum. |
| Mason, Nath. | Warden | Head of Margaret's Bay | From Hubert's to Peggy's Cove, Margaret's Bay, Ingraham and Indian Rivers. |
| Mosher, Dan. | do | Cow Bay, Dart- mouth | Cow Bay Run. |
| McKiel, Nath. | do | Sheet Harbour.... | Sheet Harbour. |
| McCleam, Donald.... | do | Chezzetcook River. | Chezzetcook River. |
| McLeod, George.... | do | Little Musquod- oboit | Middle Musquodoboit River. |
| Rowlings, Geo. | Overseer.... | Musquodoboit Har- bour | Halifax County, East Division, Dartmouth to Pope Harbour and Harbour Island. |
| Shatford, H. A. | Warden | Hubbard's Cove... | Hubbard's River. |
| Stevens, Robt. | do | Musquodoboit Har- bour | Musquodoboit River. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|---|----------------|--------------------------------------|--|
| <i>Halifax County—</i> Con. | | | |
| Walker, Wm. G..... | Warden... | Little Salmon R., Preston Road... | Little Salmon River. |
| Whitman, James E.... | do | Salmon River..... | Salmon River. |
| <i>Hants County.</i> | | | |
| Burnham, P. S. | Overseer ... | Windsor | Hants County, Western Division, from Western County Line to Walton. |
| Colter, John B. | do | Milford..... | Shubenacadie River. |
| Horne, Arch | Warden | Enfield..... | South end of Shubenacadie and Nine Mile River. |
| Mosher, Jas | do | Brooklyn..... | Rivers Meander and Herbert, from mouth to source. |
| Mosher, Noah..... | do | Mosherville | Kennetcook River, from mouth to head of tide. |
| O'Brien, Jas | do | Maitland | Walton and Kennetcook Rivers. |
| Smith, W. B..... | Overseer | do | Shubenacadie River from Five Mile River to its mouth and the south side of Cobequid Bay to Noel. |
| Snide, John | do | Shubenacadie..... | Shubenacadie River from Shubenacadie to and including Five Mile River. |
| <i>Inverness County.</i> | | | |
| Benvie, Peter..... | Warden | Mabou, Brook Vil- lage | Mabou River. |
| Coady, James | Overseer | S. W. Margaree..... | Inverness County, East Division. |
| Crowdis, Mark..... | Warden | Big Intervale..... | From Bridge to Forks North-East Margaree River. |
| Dowling, David..... | do | Riverside..... | River Inhabitants. |
| Gillies, Peter | do | S. W. Mabou..... | S. W. Mabou. |
| Graham, Stephen | do | Long Point..... | Long Point and Judique Rivers. |
| Murphy, Moses | do | N. E. Margaree..... | Ainslie Lake. |
| McDonald, M. B. | do | River Dennis | River Dennis. |
| McEachan, P. | Overseer | Glendale | South Inverness District. |
| McEarlane, Angus (An- gus' son)..... | Warden | Upper South-West Margaree River. | Upper South-West Margaree River. |
| McKay, Neil | do | Trout Brook..... | Trout Brook, Lake Ainslie. |
| McKinnon, Angus | do | N. E. Margaree Riv | Crowdis Bridge to head of river. |
| McLean, D. F. | Overseer | Port Hood..... | Inverness County, Western Division. |
| McLennan, Allan | Warden | River Dennis | River Dennis and Basin. |
| Ross, David | Overseer | N. E. Margaree... | Inverness County, East Division. |
| <i>King's County.</i> | | | |
| Bishop, C. F. | Warden | Horton..... | Gaspereaux River. |
| Brown, Philip | do | Blomidon..... | Blomidon. |
| Miller, Jas. S. | Overseer | Canning..... | King's County. |
| Murphy, L. A. | Warden | Gaspereaux..... | Gaspereaux River. |
| McIntyre, W. | do | Aylesford..... | Annapolis River. |
| Reid, R. F. | Overseer | Wolfville..... | King's County. |
| Thorpe, J. W. | Warden | Hall's Harbour... | Hall's Point to Cape Split. |
| <i>Lunenburg County.</i> | | | |
| Boylan, Edward | Warden | New Ross..... | Upper Gold River. |
| Burns, Amon | do | Upper La Have... | From Cooks to source of La Have River. |
| Cooney, Wilbur..... | do | Chester..... | East Branch, Middle River. |
| Croft, Wm..... | do | Chester Basin..... | East Gold River, from Bongard's Point to Gold River Branch, thence to Clarke's, Clinton's and Henry's Lakes. |
| Demon, David..... | do | Lower Gold River. | Lower Gold River. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|--|--------------|-----------------------------------|--|
| <i>Lunenburg County</i> —Continued. | | | |
| Evans, David. | Overseer.... | Chester | Lunenburg County, East Division, Middle Gold Martin's and Mushamush Rivers. |
| Godard, C. E. | do | Bridgewater | La Have River. |
| Keating, Michael.... | Warden | East River..... | East River. |
| Keddy, J. H. | do | New Ross..... | Larder's River. |
| Langille, James.... | do | Chester | Martin's River. |
| Mossman, Josiah.... | do | Lunenburg | From Henry Kock's to Knock's. |
| Meisner, Jacob.... | do | Chester | East River. |
| Schmeisser, N. | do | East La Have Ferry | La Have River, from mouth to Wilkie's Cove. |
| Solomon, W. M. | Overseer.... | Lunenburg..... | Western Division, Lunenburg County. |
| <i>Pictou County.</i> | | | |
| McPhie, Allan..... | do | Avondale..... | Eastern Division, comprising the coast waters from Pictou Harbour to Antigonish County line, including French River, Barney's River, Bailey's Brook and streams tributary thereto. |
| McQueen, J. D. | Overseer.... | Little Harbour.... | Southern Division, comprising Sutherland's River, Moose River, Garden of Eden Lake, East River, St. Mary's and streams tributary thereto. |
| Pritchard, A. O. | do | New Glasgow..... | Central Division, comprising Pictou Harbour, Pictou Island, East, West and Middle Rivers of Pictou. |
| Sutherland, Robert.... | do | River John | Western Division, comprising the coast waters from Colchester County line to Cole's Reef at Pictou Harbour, and all waters flowing into these waters, viz.: River John and tributaries Toney River, Big Cariboo and Little Cariboo Rivers. |
| <i>Queen's County.</i> | | | |
| Day, Thos. | Overseer.... | Liverpool | Queen's County. |
| Fitzgerald, John.... | do | Mill Village | From Steam Mills to Salter's Falls on Port Medway River. |
| Ford, Theo. | Warden | Milton | Milton Bridge up to Port Liverpool River. |
| Foster, I. C. | do | Port Medway..... | Puddingpan Island to Toby's Island. |
| Miles, Barnabas.... | do | Greenfield | Salter's Falls to Pawn Hook, on Port Medway River. |
| <i>Richmond County.</i> | | | |
| Cameron, Duncan.... | Overseer.... | St. Peter's | Eastern Division, from Bourgeois to east boundary of County, including said River. |
| Grant, Charles.... | Warden | River Inhabitants. | River Inhabitants. |
| Gerroir, Felix.... | do | Arichat | Grand Ruisseau. |
| Grouchy, J. P. | do | do | Descousse River. |
| Kyte, Patrick | do | River Tier, St. Peter's | River Tier. |
| Marmeau, Frs. | Overseer.... | Arichat | Western Division, from River Bourgeois to west boundary of County. |
| Murchison, Donald.... | Warden | Grand River | Grand River. |
| McPherson, Farquhar... | do | Riv. Moulin, Grandigue Ferry..... | River Moulin. |
| McRae, Allan | do | West Bay | West Bay, Black River. |
| Sampson, M. | do | Petit de Grat..... | Petit de Grat Inlet. |
| Sampson, J. | do | L'Ardoise..... | L'Ardoise. |
| <i>Shelburne County.</i> | | | |
| Acker, Timothy.... | Warden | Birchtown..... | Birchtown River. |
| Crowell, P. | do | Barrington..... | Barrington River. |

SCHEDULE of Fishery Officers, &c.—*Continued.*
PROVINCE OF NOVA SCOTIA—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|--|---------------|--------------------------------------|---|
| <i>Shelburne County—</i> Concluded. | | | |
| Goudy, E. S. | Overseer | Barrington | Clyde River to Yarmouth County Line. |
| Holden, C. A. | Warden | Jordan River..... | Ogden's Brook and Indian River. |
| Kehoe, M. | do | Lockeport..... | Green Harbour. |
| McGill, W. Jno. | Overseer | Shelburne | Shelburne County. |
| McKinney, Lewis. | Warden | Round Bay | Round Bay River. |
| McLean, Wm. | do | Port Saxon..... | Port Saxon. |
| Nichol, F. G. | do | Clyde River | Clyde River. |
| Ryer, George | do | Shelburne..... | Roseway River. |
| <i>Victoria County.</i> | | | |
| Beaton, Roderick..... | Warden | McNaughton. | Hume's River. |
| Bingham, Wm. | Overseer | Englishtown | Englishtown and Ingonish Division. |
| Buchanan, Donald | Warden | Barachois River..... | Barachois River. |
| Capstick, Thos. | do | Bay St. Lawrence. | Salmon River, Bay St. Lawrence. |
| Finlayson, Donald | do | Middle River..... | Middle River. |
| Foyle, Wm. | do | Baddeck River..... | Peter's Brook. |
| Hellen, Robt. | do | Cape North..... | Cape North. |
| Ingraham, G. | do | Baddeck | From Baddeck to head of Long Point. |
| McAuley, Donald..... | do | do | Baddeck River. |
| McCharles, D. | do | S. Gut, St. Ann's. | South Gut, Ste. Ann's. |
| McDonald, Duncan..... | Overseer | Aspy Bay | Victoria County, North Division, from Smoky Head to Bay St. Lawrence. |
| McDonald, Archd. | Warden | do | South Branch, Middle River. |
| McDonald, Archd. | do | North Harbour..... | North Harbour. |
| McDougall, Michael | do | Washabuck River. | Washabuck River. |
| McIver, Malcolm | do | Indian Brook..... | Indian Brook. |
| McKenzie, Chris | do | Baddeck | Middle River. |
| McLeod, Donald | do | St. Ann's River..... | River St. Ann's. |
| McLellan, John | do | Middle River..... | Middle River. |
| McMillan, Donald | do | Baddeck | Baddeck River. |
| McNeil, John S. | do | Grand Narrows..... | From Grand Narrows to McKay's Point. |
| McQuarrie, Donald..... | Overseer | Baddeck | Victoria County, South Division. |
| McRae, John (Rory's son) | Warden | McLeod | Middle River. |
| McRae, Donald | do | Baddeck | Baddeck River and tributaries. |
| McRae, Kenneth..... | do | Middle River..... | Indian Brook. |
| McRae, Donald..... | do | Red Head, Baddeck | Red Head, Baddeck. |
| McRae, John | do | Gold Diggings, Middle River. | Gold Diggings, Middle River. |
| <i>Yarmouth County.</i> | | | |
| Brand, J. I. | Warden..... | West Pubnico..... | Pubnico and Argyle. |
| Doucet, Jérôme..... | do | Tusket | Tusket River. |
| Hatfield, J. A. | Overseer | do | Yarmouth County. |
| Muise, Vital | Warden..... | Tusket Forks | Tusket Forks. |
| Porter, Z. | do | Beaver River..... | Beaver River. |
| Porter, John B. | do | Eel Lake..... | Eel Lake. |

PROVINCE OF NEW BRUNSWICK.

| | | | |
|------------------------|---|-------------------|---|
| J. H. Pratt | Inspector of Fisheries and officer in command of Cruiser "Dream." | St. Andrew's..... | District No. 1, comprising the County of Charlotte, including the Islands of Campobello and Grand Manan, and Passamaquoddy Bay. |
| Robert A. Chapman..... | Inspector of Fisheries. | Moncton..... | District No. 2, comprising the Counties of Restigouche, Gloucester, Northumberland, Kent and Westmoreland. |
| David Morrow | do | Oromocto | District No. 3, comprising the Counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria. |

SCHEDULE of Fishery Officers, &c.—*Continued.*
PROVINCE OF NEW BRUNSWICK—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|---------------------------|--------------|--------------------------------------|---|
| <i>Albert County.</i> | | | |
| Dryden, J. W. | Warden.... | Hillsboro'..... | Mouth of Petitcodiac River and Dorchester Bay |
| Oliver, Bartlet. | do | Harvey, Little Ro- cher..... | Rocher Bay. |
| Stewart, Suthd..... | Overseer.... | Alma..... | County of Albert. |
| Taylor, Wallace..... | Warden.... | Coverdale..... | Petitcodiac River. |
| Wilbur, Kinnear T. | do | Midway, Harvey.. | Germantown Lake and Shepody River. |
| <i>Carleton County.</i> | | | |
| Burt, George R. | Overseer.... | Upper Woodstock. | St. John River and tributaries, from Long's Creek to Tobique River. |
| Lindsay, G. Alex. | do | Highlands..... | Miramichi River(S.W) from head waters to forks. |
| Scott, J. W. | Warden.... | Canterbury..... | St. John River, from Eel River to Woodstock. |
| <i>Charlotte County.</i> | | | |
| Ash, Wm. | Overseer.... | Beaver Harbour.. | East District of County Charlotte. |
| Barry, Thos. | Warden.... | Lower Falls, Ma- gaguadavic | Lower Falls, Magaguadavic River. |
| Brown, Barth..... | Overseer.... | Campobello..... | Campobello and West Isles, with coasts and streams in Charlotte County. |
| Campbell, D. F. | do | St. Andrews..... | Inner Bay of Passamaquoddy. |
| Carrol, Edward..... | Warden.... | Grand Manan..... | Whitehead Island. |
| Dick, Samuel..... | do | La Tête..... | Inner Bay, Passamaquoddy. |
| Dixon, Robert..... | do | Lepreaux..... | Seeley's Cove to Lepreaux. |
| Holmes, Thomas..... | do | Deer Island..... | West side, Deer Island. |
| Lord, J. M. | Overseer.... | do | Deer Island. |
| McLaughlin, W. B. | do | Grand Manan..... | Grand Manan Island and spawning grounds. |
| Todd, Frank..... | do | St. Stephen..... | St. Croix River and tributaries. |
| <i>Gloucester County.</i> | | | |
| Aché, Adolphe..... | Warden.... | Shippegan..... | Shippegan. |
| Boyd, Alex..... | Overseer.... | Miscou Harbour.. | Little Shippegan to Miscou. |
| Calnan, John, jun. | Warden.... | Kinsale..... | That part of River Tête à Gauche, from a mile above the Mill Dam to the source of said river. |
| Comeau, Frédéric..... | do | Petit Rocher..... | Petit Rocher, from Belledune to Mill Stream. |
| Cormier, Gustave..... | Overseer.... | Caraquet..... | Caraquet Herring Banks. |
| Dempsey, Miles..... | Warden.... | Salmon Beach..... | Salmon Beach, from Bass River to Grindstone Point. |
| Gibbs, Valentine..... | do | Pokemouche..... | Pokemouche. |
| Hache, J. L. | Overseer.... | Caraquet..... | Caraquet and Shippegan oyster beds with St. Cimon's Inlet and River. |
| Hickson, James..... | do | Bathurst..... | River Nepisiguit and tributaries, with sea coast and streams, from Belledune River to Grind- stone Point. |
| Robicheau, Olivier..... | Warden.... | Ferguson's Point.. | Coast from Northumberland County line to Green Point, with Big and Little Tracadie Rivers. |
| Trudel, Camille..... | do | Shippegan..... | Shippegan. |
| Walsh, William..... | Overseer.... | Pokemouche..... | The District of Pokemouche. |
| <i>Kent County.</i> | | | |
| Collet, A. L. | Warden.... | Buctouche..... | Buctouche Bay. |
| Cormier, Chas..... | Overseer.... | Cocagne..... | Cocagne River. |
| Girouard, M. A. | do | Buctouche..... | Big Buctouche River. |
| Guimon, Lazare..... | do | St. Louis..... | From Kouchibouguac to Cockfish River. |
| Hannah, Wm. F. | do | Richibucto..... | Richibucto River. |
| Leger, F. B. | Warden.... | Little Buctouche River | Little Buctouche River. |
| Leblanc, A. T. | Overseer.... | Legerville..... | Canaan River (upper part). |
| Mauzerolles, Nicholas.. | Warden.... | Kouchibouguacis.. | From Kouchibouguacis River to Point Sapin. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NEW BRUNSWICK—*Continued.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-------------------------------|--------------|----------------------------|--|
| <i>King's County.</i> | | | |
| Belyea, J. A. | Overseer ... | Westfield | St. John River and Belle Isle Bay and streams running thereinto. |
| Fenwick, Edwin | Warden ... | Studholm | Millstream. |
| Gosline, Samuel | Overseer ... | Smith's Creek | From mouth of Smith's Creek, upwards. |
| Pearson, I. R. | Warden ... | English Settlement | Washademoak Lake and its tributaries in King's and Queen's Counties. |
| Spragg, Z. S. | do | Belle Isle | Belle Isle Bay. |
| <i>Northumberland County.</i> | | | |
| Robichaud, Prudent. | Overseer ... | Upper Neguac | District No. 1—The north coast of Northumberland County extending from Gloucester County line up the Miramichi Bay and River to Oak Point as far as midchannel, including all bays, gullies, islands, rivers and streams entering thereinto. |
| Williston, J. G. | do | Bay du Vin. | District No. 2—The south coast of Northumberland County, extending from Kent County line up the Miramichi Bay and River to Point aux Carr as far as midchannel, including all bays, gullies and islands and rivers and streams entering thereinto. |
| Wyse, William | do | Chatham | District No. 3—Both shores of the main Miramichi River extending from a line drawn from Point aux Carr on the south side to Oak Point on the north side, to its junction with the north-west and south-west Miramichi Rivers, together with all islands therein and all rivers and streams emptying thereinto. |
| Hogan, Patrick | do | ..... | District No. 4—The north-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources. |
| Parker, Thomas | do | Derby | District No. 5—The south-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources. |
| <i>Queen's County.</i> | | | |
| Hetherington, I. T. | Overseer ... | Jenkins, Johnson.. | From Cole's Island to foot of Washademoak Lake |
| Langan, Issiah | Warden ... | Chipman, Gaspe-reaux | Salmon River. |
| Philips, Robert | do | Canaan Rapids | Head waters, Washademoak Lake. |
| <i>Restigouche County.</i> | | | |
| McPherson, Alex. | Overseer ... | River Charlo. . . | From Belledune to Dalhousie. |
| <i>Sunbury County.</i> | | | |
| Griffith, Chas. | do | Burton | St. John River, Indiantown to County Line of York. |
| Hoben, G. W. | Warden ... | Sheffield | do do do |
| <i>St. John County.</i> | | | |
| O'Brien, Jos. | Overseer ... | Carleton, St. John. | St. John County. |
| Rourke, E. V. | do | St. Martin's | Eastern part of St. John County, from Quaco Head to Goose River. |

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NEW BRUNSWICK—*Concluded.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-----------------------------|---------------|---------------------------------|--|
| <i>Victoria County.</i> | | | |
| Caron, Magloire | Warden | Middle St. Francis | Above Fish River Rapids. |
| Edgar, Thos. | do | Three Rivers | Middle Division, Tobique River. |
| Larlie, Daniel. | do | Andover | Salmon River. |
| McDougall, John..... | do | Rocky Brook, Parish of Lorne. | Three Brooks, Branch of Tobique River. |
| Pelletier, Beloni | do | Caron's Brook..... | Baker's Lake and adjoining streams. |
| Roberts, Chas., jun..... | do | Andover..... | Lower Division, Tobique River. |
| Ryan, Thos. D..... | Overseer..... | Grand Falls..... | County of Victoria. |
| <i>Westmoreland County.</i> | | | |
| Cormier, D. T. | do | Pré-d'en-haut | Dorchester Bay. |
| Deacon, W. B. | do | Shediac..... | Shediac Harbour and River. |
| Goodwin, Robt. | do | Bay Verte..... | The Parishes of Sackville and Westmoreland. |
| <i>York County.</i> | | | |
| Campbell, J. A. | Warden | Kingsclear, Fred-erickton | Grand Pass, on St. John River, upwards, from Crock's Point to Lower Line of York County, including Nashwaak River. |
| Cronkhite, A. B. | do | Southampton..... | St. John River, from Upper Line of York County to Crock's Point, on River St. John. |
| Cunningham, A. | Overseer..... | Canterbury Station | Skiff and Palfry and other lakes. |
| Glendenning, D. | Warden | Harvey Station... | Magaguadavic Stream and Lake Oromocto and other lakes. |
| McNelly, L. | do | Upper Kingsclear. | From Burgoyne's Ferry to Nackawack. |
| Moir, A. | Overseer..... | Bloomfield | From Price's Bend to Burnt Hill, S.W. Miramichi. |
| Orr, Robt | do | Frederickton | County of York. |

PROVINCE OF PRINCE EDWARD ISLAND.

| | | | |
|------------------------|--------------------------|-------------------------|--|
| Edward Hackett | Inspector of Fisheries.. | Tignish..... | Prince Edward Island |
| <i>King's County.</i> | | | |
| Cuddie, James | Warden | Murray Harbour.. | Murray Harbour and River, with Lots 63 and 64. |
| Dingwell, J. H. | do | Morell River..... | Fourth District of Morell |
| Duffy, Peter | do | St. Peter's..... | St. Peter's and Morell. |
| Griffin, Henry | do | Georgetown | Cardigan Bay and Montague River |
| Mathewson, M. | do | Grand River..... | Grand River. |
| Mitchel, James | do | Peake's Road..... | First District of Morell. |
| Morrow, Henry | do | Souris River | Souris River. |
| McDonald, Allan..... | do | North Lake..... | North Lake. |
| McDonald, Ronald..... | do | Naufrage River... | Naufrage River. |
| O'Brien, John | do | Morell River..... | Second District of Morell. |
| Reilly, Daniel | do | Montague River... | Montague, from Georgetown Road to Whim Road. |
| <i>Queen's County.</i> | | | |
| Beers, George F | Warden | Cherry Valley | Pownal Bay and Seal River. |
| Buotte, Dominique..... | do | Rustico | District of Rustico. |
| Currie, Neil | do | Long Creek, West River. | Shore of Lot 65, South of West River. |
| Delaney, Jonathan..... | do | New London | New London. |
| Garnum, Lionel..... | do | Winter River..... | Winter River. |
| Howatt, James | do | Crapaud | Crapaud. |
| MacKenzie, Finlay..... | do | Pinette River..... | Lots 60 and 62. |

SCHEDULE of Fishery Officers, &c.—*Continued.*
PROVINCE OF PRINCE EDWARD ISLAND—*Concluded.*

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|----------------------------------|--------------------|----------------------------------|--|
| <i>Queen's Co.—Con.</i> | | | |
| Murphy, Thomas | Warden | Stanley Bridge | Trout River. |
| Murphy, Joseph | do | China Point, Lot 50 | District of Pownal Bay and Seal River. |
| McDonald, Charles C. | do | Blooming Ponds | Alewife fishery of Blooming Ponds. |
| Power, James | do | Hunter River | Huntley and Wheatley Rivers. |
| Ready, Michael | do | Tracadie | Winter River. |
| Shaw, A. C. | do | Long Creek, Lot 65 | District of West River. |
| Stanley, Francis | do | Charlottetown | Charlottetown, including East, West and North Rivers. |
| Stephenson, George | do | New Glasgow | New Glasgow River. |
| Traynor, James P. | do | Johnston's River | Johnston's River, including oyster fishery at its mouth. |
| Whitehead, William | do | S. W. River | South West River. |
| <i>Prince County.</i> | | | |
| Aylward, Peter | Warden | Tignish | Skinner's Pond, southward, from south end of Nail Pond to Black Pond, inclusive, and east to railway. |
| Bryant, D. L. | do | Mount Pleasant, Lot 18 | From western bank of Big Pierre Jacques River to the point where the north line of Lot 15 touches the shore of Egmont Bay. |
| Chiasson, John (Chapel). | do | Tignish | Tignish, from line of Lot 2, northward to include Little and Big Tignish, and westward to Railway. |
| McBride, Patrick | Overseer | Lower Freetown | County of Prince. |
| Doyle, Lawrence | Warden | Lot 3 | From Little Miminigash to Cape Wolfe. |
| Gillis, V. S. | do | Indian River, Lot 18 | Richmond Bay and Malpeque. |
| Holland, J. F. B. | do | Bedeque | From Graham's Head, Lot 26, to Cape Traverse. |
| Howat, Calvin | do | Tryon River | Tryon River. |
| McDonald, James A. | do | Grand River | Grand River. |
| McDonald, Alex. | do | Alberton | Cascumpeque Bay and Inlet, from the Narrows to Kildare Capes. |
| Nelligan, James M. | do | Nail Pond | Nail Pond, Skinner's Pond. |
| Ramsey, J. A. | do | Hamilton, Lot 18 | Oyster Cove, Richmond Bay. |
| Ramsey, James | do | Tyne Valley | Lot 13, Trout River. |
| Ramsey, J. K. | do | West Cape | From Cape Wolfe to Brae River. |
| Reid, Peter | do | Coleman | Lots 5, 6 and 10. |
| Rix, John | do | Miminigash | Miminigash. |
| Sharpe, John A. | do | Summerside | Summerside, including Bedeque Bay and South part of Richmond Bay. |
| Sharpe, George A. | do | Lot 12 | Lot 12, on the Narrows. |

PROVINCE OF MANITOBA AND NORTH-WEST TERRITORIES.

| | | | |
|----------------------------|---------------------|------------------------------|--|
| Alex. McQueen | Inspector | Winnipeg | Province of Manitoba. |
| F. C. Gilchrist | Overseer | Fort Qu'Appelle | Qu'Appelle River and adjoining lakes. |
| John Foster | do | Sussex, Craven P. O. | Long Lake, North-West Territories. |
| C. L. Guoin | do | Calgary | District of Calgary, N. W. T. |
| S. B. Lucas | do | Holbrooke | District of Peace Hills. |
| R. S. McKenzie | do | Stohart | District of Prince Albert. |
| Robert Gunne | do | Winnipeg | Each within the limits of his district as a Forest Ranger. |
| William Toole | do | do | |
| A. B. McLellan | do | do | |
| Michael Fee | do | do | |
| A. E. Johnston | do | Edmonton | |
| J. R. Thompson | do | Calgary | |
| R. S. Cook | do | Prince Albert | |
| H. J. Montgomery | do | Battleford | |

SCHEDULE of Fishery Officers, &c.—*Concluded.*

PROVINCE OF BRITISH COLUMBIA.

| Name. | Rank. | P. O. Address. | Extent of Jurisdiction. |
|-------------------|--------------|------------------|-------------------------------|
| Thomas Mowat..... | Inspector... | New Westminster. | Province of British Columbia. |
| J. W. McKay..... | Overseer.... | Kamloops | District of Yale. |

FISH CULTURE.

| Name. | Rank. | P. O. Address. |
|------------------------|---|--------------------------|
| Samuel Wilmot. | Superintendent of Fish Culture for the Dominion.... | Ottawa. |
| Charles Wilmot..... | Officer in charge of Government Fish Hatchery..... | Newcastle, Ont. |
| William Parker..... | do do | Sandwich, Ont. |
| L. N. Catellier..... | do do | Tadoussac, Que. |
| Henry Davis..... | do do | Gaspé Basin, Que. |
| Alex. Mowat..... | do do | Deeside, Metapedia, Que. |
| A. H. Moore..... | do do | Magog, Que. |
| A. B. Wilmot..... | do do | Bedford Basin, N.S. |
| C. A. Farquharson..... | do do | Sydney, C.B., N.S. |
| Isaac Sheasgreen..... | do do | South Esk, N.B. |
| Charles McCluskey..... | do do | Grand Falls, N.B. |
| Thomas Mowat..... | do do | New Westminster, B.C. |

RECAPITULATION.

| Provinces. | No. of Officers. |
|---|---------------------|
| Ontario | 112 |
| Quebec | 68 |
| Nova Scotia..... | 214 |
| New Brunswick..... | 77 |
| Prince Edward Island..... | 47 |
| Manitoba and North-West Territories..... | 14 |
| British Columbia..... | 2 |
| Fish Culture..... | 12 |
| Officers and crews of eight fisheries protection vessels..... | 175 |
| Total..... | 721 |

In addition to the above regular staff, 103 temporary local Guardians were employed during the year as occasion required.

APPENDIX No. 2.

FISHING BOUNTIES.

GENERAL STATEMENT of Fishing Bounty Claims received for the Year 1889.

| Province. | County. | No. of Claims Received. | No. of Claims Rejected. | No. of Claims held in abeyance. | No. of Claims Paid. |
|-------------------------|----------------------|-------------------------------|-------------------------------|--|---------------------------|
| Nova Scotia | Annapolis..... | 183 | 1 | | 183* |
| | Antigonish..... | 154 | | | 154 |
| | Cape Breton | 515 | 2 | | 513 |
| | Digby | 286 | | 1 | 285 |
| | Guysboro' | 1,203 | 3 | | 1,200 |
| | Halifax | 1,523 | 19 | 3 | 1,515* |
| | Inverness..... | 695 | 1 | | 694 |
| | King's | 48 | 2 | | 46 |
| | Lunenburg | 887 | 8 | | 880* |
| | Pictou | 19 | | | 19 |
| | Queen's | 264 | 1 | | 263 |
| | Richmond | 1,325 | 53 | 209 | 1,063 |
| | Shelburne..... | 746 | 2 | | 744 |
| | Victoria | 749 | 2 | | 747 |
| | Yarmouth | 219 | 1 | 1 | 217 |
| | Totals | 8,816 | 95 | 214 | 8,523 |
| New Brunswick..... | Charlotte | 851 | 1 | | 850 |
| | Gloucester | 1,190 | 19 | 13 | 1,158 |
| | Kent | 286 | 1 | | 285 |
| | Northumberland | 20 | 2 | | 19* |
| | Restigouche..... | 2 | | | 2 |
| | St. John | 72 | 1 | | 71 |
| | Westmoreland..... | 7 | | | 7 |
| | Totals | 2,428 | 24 | 13 | 2,392 |
| Prince Edward Island... | King's | 638 | 6 | | 944* |
| | Prince | 436 | 6 | | 430 |
| | Queen's | 137 | | | 137 |
| | Totals | 1,211 | 12 | | 1,511 |
| Quebec..... | Bonaventure | 1,622 | 7 | | 1,623* |
| | Gaspé..... | 2,447 | 17 | | 2,432* |
| | Rimouski..... | 28 | | | 28 |
| | Saguenay..... | 567 | 6 | | 569* |
| | Totals | 4,664 | 30 | | 4,652 |

RECAPITULATION.

| | | | | |
|----------------------------|--------|-----|-----|--------|
| Nova Scotia..... | 8,816 | 95 | 214 | 8,523 |
| New Brunswick | 2,428 | 24 | 13 | 2,392 |
| Prince Edward Island | 1,211 | 12 | | 1,511 |
| Quebec | 4,664 | 30 | | 4,652 |
| Grand Totals | 17,119 | 161 | 227 | 17,078 |

* NOTE.—The number of Bounty Claims paid for 1889 includes several claims for the year 1888 held in abeyance for enquiry. This will explain the difference between claims paid and claims received after deducting those rejected and held in abeyance.

**GENERAL STATEMENT of Payments made on account of Fishing Bounty Claims to
Boats and Vessels, for the year 1889.**

| Province. | County. | Amount Paid. | Total. |
|-------------------------|--------------------|--------------|------------|
| | | \$ cts. | \$ cts. |
| Nova Scotia | Annapolis | 1,226 31 | |
| | Antigonish | 1,012 00 | |
| | Cape Breton | 3,777 47 | |
| | Digby | 3,329 61 | |
| | Guysboro' | 9,067 57 | |
| | Halifax | 12,156 08 | |
| | Inverness | 6,207 96 | |
| | King's | 324 50 | |
| | Lunenburg | 20,761 42 | |
| | Pictou | 153 00 | |
| | Queen's | 3,023 06 | |
| | Richmond | 9,359 92 | |
| | Shelburne | 8,367 80 | |
| | Victoria | 5,061 00 | |
| | Yarmouth | 6,324 81 | |
| | | | 90,142 51 |
| New Brunswick.... | Charlotte | 6,980 16 | |
| | Gloucester | 10,412 95 | |
| | Kent | 2,248 65 | |
| | Northumberland.... | 499 37 | |
| | Restigouche | 28 00 | |
| | St. John | 864 66 | |
| | Westmoreland | 43 00 | |
| | | | 21 026 79 |
| Prince Edward Island... | King's | 7,715 02 | |
| | Prince | 4,765 25 | |
| | Queen's | 1,514 26 | |
| | | | 13,994 53 |
| Quebec..... | Bonaventure..... | 10,689 00 | |
| | Gaspé | 17,453 34 | |
| | Rimouski | 160 00 | |
| | Saguenay..... | 5,060 37 | |
| | | | 33,362 71 |
| | Grand total | | 158,526 54 |

NOTE.—Of the above amount, \$8,526.69 has been charged against the appropriation for 1890-91.

DETAILED STATEMENT showing Fishing Bounties paid to Vessels in each County, for the Year 1889.

| Province. | County. | No. of Vessels. | Tonnage. | Average Tonnage. | No. of Men. | Amount Paid. |
|----------------------------|---------------------|-----------------|----------|------------------|-------------|--------------|
| | | | | | | \$ cts. |
| Nova Scotia | Annapolis | 6 | 136 | 23 | 29 | 132 31 |
| | Cape Breton | 12 | 220 | 18 | 41 | 307 47 |
| | Digby | 51 | 1,177 | 23 | 351 | 1,721 61 |
| | Guysboro' | 19 | 677 | 36 | 120 | 974 57 |
| | Halifax | 123 | 3,052 | 25 | 698 | 4,367 08 |
| | Inverness | 22 | 741 | 34 | 141 | 1,037 96 |
| | King's | 5 | 75 | 15 | 12 | 112 50 |
| | Lunenburg | 159 | 11,519 | 72 | 2,019 | 17,184 42 |
| | Pictou | 1 | 22 | 22 | 4 | 33 00 |
| | Queen's | 18 | 1,048 | 58 | 212 | 1,524 06 |
| | Richmond | 65 | 1,932 | 30 | 471 | 2,825 92 |
| | Shelburne | 53 | 2,835 | 53 | 653 | 4,127 80 |
| | Victoria | 1 | 14 | 14 | 3 | 21 00 |
| | Yarmouth | 62 | 3,675 | 59 | 930 | 5,423 81 |
| | Totals | 597 | 27,123 | 45 | 5,684 | 39,848 51 |
| New Brunswick. | Charlotte | 88 | 1,501 | 17 | 306 | 2,127 16 |
| | Gloucester | 31 | 401 | 13 | 102 | 590 95 |
| | Kent | 3 | 51 | 17 | 10 | 71 50 |
| | Northumberland | 9 | 291 | 32 | 62 | 414 37 |
| | Restigouche | 1 | 14 | 14 | 3 | 21 00 |
| | St. John | 21 | 332 | 16 | 82 | 487 66 |
| | Totals | 153 | 2,590 | 17 | 565 | 3,712 64 |
| Prince Edward Island. | King's | 20 | 764 | 38 | 134 | 1,043 02 |
| | Prince | 12 | 461 | 38 | 89 | 651 25 |
| | Queen's | 3 | 49 | 16 | 16 | 69 26 |
| | Totals | 35 | 1,274 | 36 | 239 | 1,763 53 |
| Quebec | Gaspé | 16 | 660 | 41 | 122 | 856 34 |
| | Saguenay | 32 | 1,069 | 33 | 208 | 1,600 87 |
| | Totals | 48 | 1,729 | 36 | 330 | 2,457 21 |

RECAPITULATION.

| | | | | | |
|----------------------------|-----|--------|----|-------|-----------|
| Nova Scotia | 597 | 27,123 | 45 | 5,684 | 39,848 51 |
| New Brunswick | 153 | 2,590 | 17 | 565 | 3,712 64 |
| Prince Edward Island | 35 | 1,274 | 36 | 239 | 1,763 53 |
| Quebec | 48 | 1,729 | 36 | 330 | 2,457 21 |
| Grand totals | 833 | 32,716 | 39 | 6,818 | 47,781 89 |

DETAILED STATEMENT of Fishing Bounties paid to Boats for the Year 1889.

| Province. | County. | No. of Boats. | No. of Men. | Amount Paid. |
|-----------------------|-----------------|------------------|----------------|-----------------|
| | | | | \$ cts. |
| Nova Scotia. | Annapolis. | 177 | 289 | 1,044 00 |
| | Antigonish. | 154 | 286 | 1,012 00 |
| | Cape Breton. | 501 | 990 | 3,470 00 |
| | Digby. | 234 | 457 | 1,608 00 |
| | Guy'sboro' | 1,181 | 2,303 | 8,093 00 |
| | Halifax. | 1,392 | 2,129 | 7,789 00 |
| | Inverness. | 672 | 1,498 | 5,170 00 |
| | King's. | 41 | 57 | 212 00 |
| | Lunenburg. | 721 | 954 | 3,577 00 |
| | Pictou. | 18 | 34 | 120 00 |
| | Queen's. | 245 | 418 | 1,499 00 |
| | Richmond. | 998 | 1,845 | 6,534 00 |
| | Shelburne. | 691 | 1,183 | 4,240 00 |
| | Victoria. | 746 | 1,428 | 5,030 00 |
| | Yarmouth. | 155 | 247 | 896 00 |
| | Totals. | 7,926 | 14,118 | 50,294 00 |
| New Brunswick. | Charlotte. | 762 | 1,349 | 4,803 00 |
| | Gloucester. | 1,125 | 2,904 | 9,822 00 |
| | Kent. | 282 | 631 | 2,177 15 |
| | Northumberland. | 10 | 25 | 85 00 |
| | Restigouche. | 1 | 2 | 7 00 |
| | St. John. | 50 | 109 | 377 00 |
| | Westmoreland. | 7 | 12 | 43 00 |
| | Totals. | 2,237 | 5,032 | 17,314 15 |
| Prince Edward Island. | King's. | 923 | 1,910 | 6,672 00 |
| | Prince. | 418 | 1,221 | 4,114 00 |
| | Queen's. | 134 | 437 | 1,445 00 |
| | Totals. | 1,475 | 3,568 | 12,231 00 |
| Quebec. | Bonaventure. | 1,623 | 3,024 | 10,689 00 |
| | Gaspé. | 2,414 | 4,729 | 16,597 00 |
| | Rimouski. | 28 | 44 | 160 00 |
| | Saguenay. | 537 | 1,010 | 3,459 50 |
| | Totals. | 4,602 | 8,807 | 30,905 50 |

RECAPITULATION.

| | | | |
|-----------------------|--------|--------|------------|
| Nova Scotia. | 7,926 | 14,118 | 50,294 00 |
| New Brunswick. | 2,237 | 5,032 | 17,314 15 |
| Prince Edward Island. | 1,475 | 3,568 | 12,231 00 |
| Quebec. | 4,602 | 8,807 | 30,905 50 |
| Grand Totals. | 16,240 | 31,525 | 110,744 65 |

DETAILED STATEMENT of Fishing Bounties paid to Vessels, for the Year 1889.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|----------------------|----------------------|----------|----------------------------------|-----------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 57,153 | Cygnets | Yarmouth | 19 | Warren Snow | Hillsburn | 4 | 28 50 |
| 90,667 | Edward Everett | Digby | 57 | David Hayden | Lower Granville | 10 | 78 36 |
| 77,766 | Laconic | Shelburne | 15 | Jno. W. Sproule | Leitchfield | 7 | 22 50 |
| 88,685 | Ladora | St. John, N.B. | 12 | Stephen Baker | Margaretville | 3 | 15 75 |
| 77,958 | Maggie M. | Annapolis | 16 | Parker Zwicker | Clementsport | 2 | 16 80 |
| 83,253 | Rescue | do | 17 | Josiah Burrell | do | 3 | 20 40 |

CAPE BRETON COUNTY.

| | | | | | | | |
|--------|-----------------------|---------------|----|--------------------------|------------------------|---|-------|
| 88,507 | Belle of Rome | Sydney | 14 | Thos. Bagnell | Gabarouse | 3 | 16 80 |
| 92,592 | Dread Not | do | 10 | Peter Leblanc | Little Bras d'Or | 2 | 15 00 |
| 90,718 | Gladys | do | 57 | D. A. Smith | North Sydney | 4 | 67 17 |
| 88,513 | Ida | do | 10 | Isaiah Leblanc | Little Bras d'Or | 2 | 15 00 |
| 92,600 | Merit | do | 13 | Alex. Leblanc | do | 3 | 19 50 |
| 80,973 | Ocean Wave | do | 20 | Samuel Moore | do | 4 | 30 00 |
| 88,504 | Quick Step | do | 12 | Fred. Marsh, et al. | Lingan | 3 | 18 00 |
| 57,681 | Quick Step | Halifax | 22 | Wm. O'Brien | Little Bras d'Or | 3 | 33 00 |
| 74,038 | River Queen | Sydney | 32 | Peter Deveau | do | 6 | 48 00 |
| 77,857 | Sailor's Bride | do | 10 | Edward O'Brien | do | 3 | 15 00 |
| 92,593 | Thomas Parnell | do | 10 | Wm. Anderson | North Sydney | 4 | 15 00 |
| 88,518 | W. F. Elizabeth | do | 10 | Wm. Curry | S. Head, Cow Bay | 4 | 15 00 |

DIGBY COUNTY.

| | | | | | | | |
|--------|------------------------|-----------------|----|------------------------|---------------------|----|--------|
| 72,978 | Annie Coggins | Digby | 22 | L. Coggins, M.O | Westport | 7 | 30 93 |
| 90,660 | Alice May | Yarmouth | 18 | Bradish Bailey | do | 7 | 25 31 |
| 83,431 | Acadian | Weymouth | 32 | Samuel Thurber | Freeport | 8 | 48 00 |
| 75,612 | Alice | Yarmouth | 17 | Chas. E. Finigan | do | 6 | 23 67 |
| 83,258 | Alfred | Annapolis | 22 | Amos H. Outhouse | Tiverton | 10 | 33 00 |
| 75,721 | Angeline | Yarmouth | 67 | Wm. Snow | Digby | 14 | 100 50 |
| 74,331 | Condor | do | 11 | Howard Titus | Westport | 5 | 16 50 |
| 83,421 | Charley | Weymouth | 10 | Delaney Graham | Centreville | 2 | 11 24 |
| 85,684 | Constitution | Digby | 28 | James W. Dillon | Digby | 8 | 42 00 |
| 88,403 | David Sprague | do | 31 | Colin Titus | Westport | 3 | 37 20 |
| 75,711 | Dove | Yarmouth | 20 | Joseph Ossinger | Tiverton | 7 | 30 00 |
| 77,740 | Elmer | Digby | 15 | Walter Coggins | Westport | 6 | 22 50 |
| 75,757 | Etta | Yarmouth | 17 | J. W. C. Webber | do | 6 | 25 50 |
| 85,683 | Edith L. | Digby | 16 | Isaac Peters | do | 4 | 20 00 |
| 80,797 | Ella H. | do | 13 | T. W. Whiteneck | Freeport | 5 | 19 50 |
| 90,662 | Edward A. Horton | do | 67 | Joseph E. Snow | Digby | 14 | 100 50 |
| 74,329 | Fairy Queen | Yarmouth | 13 | Wallace Coggins | Westport | 5 | 17 87 |
| 80,798 | Fredie G. | Digby | 18 | Geo. Gower | do | 6 | 27 00 |
| 75,614 | Fawn | do | 17 | Isaac Peters | do | 7 | 25 50 |
| 75,601 | Flash | do | 10 | James A. Peters | do | 5 | 15 00 |
| 85,550 | Fair Play | Yarmouth | 11 | Jno. Sollows | Port Maitland | 5 | 16 50 |
| 85,686 | Gladstone | Digby | 16 | Augustus Haycock | Westport | 6 | 24 00 |
| 83,260 | Gazelle | Annapolis | 20 | D. & O. Sproule | Digby | 5 | 30 00 |
| 80,799 | Hattie T. | Digby | 16 | Frank P. Titus | Westport | 6 | 24 00 |
| 80,800 | Helen Maud | do | 20 | Chas. McDormand | do | 7 | 30 00 |
| 75,751 | Helen Gertrude | do | | | | | |
| | Nickerson | Yarmouth | 16 | M. & E. Haines | Freeport | 5 | 22 00 |
| 80,604 | Jennie C. | do | 16 | Charles Hicks | Westport | 6 | 24 00 |
| 94,693 | John H. Kennedy | Digby | 54 | J. S. Hayden | Granville | 9 | 76 95 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

DIGBY COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|--------------------|-------------------|----------|----------------------------------|--------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 85,685 | L. M. Ellis..... | Digby | 35 | Holland Outhouse..... | Tiverton..... | 11 | 52 50 |
| 80,786 | Lizzie P..... | do | 12 | Mary E. Wyman..... | Freeport..... | 5 | 16 50 |
| 85,690 | Lora T..... | do | 15 | Joseph Thurber..... | do | 6 | 22 50 |
| 88,404 | Live Yankee..... | do | 57 | Howard Anderson..... | Digby | 12 | 85 50 |
| 75,594 | Lizzie G..... | do | 16 | Wm. McGrath..... | Granville..... | 7 | 24 00 |
| 85,682 | Malapert..... | do | 22 | James Glaven..... | Westport..... | 8 | 33 00 |
| 80,794 | Minnie C..... | do | 18 | Charles Bailey..... | do | 6 | 27 00 |
| 77,618 | May Queen..... | Barrington..... | 34 | Livingstone Coggins..... | do | 11 | 51 00 |
| 85,533 | Minnie C..... | Yarmouth..... | 12 | J. N. Sanders..... | Port Maitland..... | 3 | 15 75 |
| 90,873 | Primrose..... | do | 34 | Wm. McKenzie..... | Westport..... | 10 | 51 00 |
| 75,714 | Prince..... | do | 10 | Geo. Stevens..... | Freeport..... | 5 | 15 00 |
| 83,132 | Restless..... | Digby | 25 | Frank Suthern..... | Westport..... | 8 | 37 50 |
| 85,558 | S. A. Crowell..... | Yarmouth..... | 23 | Wallace Gower..... | do | 8 | 34 50 |
| 80,784 | Silver Cloud..... | Digby | 41 | Andrew Coggins, M.O..... | do | 10 | 61 50 |
| 75,725 | Stella..... | Yarmouth..... | 24 | Byard Powell..... | Freeport..... | 7 | 36 00 |
| 75,726 | Thrush..... | do | 13 | Handley Outhouse..... | Tiverton..... | 5 | 19 50 |
| 94,694 | Utah Unice..... | Digby | 33 | M. & E. Haines..... | Freeport..... | 8 | 49 50 |
| 37,282 | Victoria..... | do | 29 | Jno. Outhouse..... | Tiverton..... | 10 | 43 50 |
| 74,317 | Willie..... | Yarmouth..... | 21 | Henry Glaven..... | Westport..... | 8 | 29 75 |
| 85,559 | Willie F..... | do | 12 | Edw. C. Thurber..... | Freeport..... | 4 | 18 00 |
| 75,595 | West Wind..... | Digby | 25 | James Cousins..... | Digby | 5 | 32 14 |
| 75,722 | Yuba..... | Yarmouth..... | 15 | George Denton..... | Westport..... | 6 | 22 50 |
| 77,963 | Zulu..... | Annapolis..... | 18 | Jno. McKay..... | Tiverton..... | 4 | 24 30 |

GUYSBORO' COUNTY.

| | | | | | | | |
|--------|---------------------|---------------------------|----|---------------------------|----------------------|----|--------|
| 80,985 | Annie Roy..... | Guysboro' | 80 | G. E. Jost..... | Guysboro' | 14 | 120 00 |
| 80,991 | Atlanta..... | do | 80 | Stephen Sweet..... | Isaac's Harbour..... | 15 | 120 00 |
| 90,736 | Alert..... | Pt. Hawkesbury..... | 11 | W. A. Keating..... | Port Mulgrave..... | 3 | 16 50 |
| 41,771 | Atalia..... | Guysboro' | 34 | Thos. H. Peeples..... | Pirate Harbour..... | 4 | 51 00 |
| 90,841 | C. W. Lundy..... | do | 12 | Wm. Luddington..... | Coddles Harbour..... | 5 | 18 00 |
| 80,988 | Dido..... | do | 59 | Stephen Sweet..... | Isaac's Harbour..... | 12 | 88 50 |
| 80,996 | Gertie Belle..... | do | 15 | Alex. Munroe..... | White Head..... | 3 | 18 00 |
| 80,999 | Guardian Angel..... | do | 21 | Joseph Fougère, jun..... | Larry's River..... | 4 | 28 35 |
| 57,715 | John Lawrence..... | Halifax..... | 22 | Alex. Henderson..... | New Harbour..... | 5 | 33 00 |
| 77,942 | Julia Franklyn..... | Charlottetown, P.E.I..... | 79 | Henry Linden..... | Charlo's Cove..... | 8 | 93 14 |
| 85,724 | Jumbo..... | Halifax..... | 20 | do | do | 8 | 30 00 |
| 80,989 | Laure..... | Guysboro' | 80 | Henry M. Jost..... | Guysboro' | 12 | 115 38 |
| 69,964 | Lizzie A..... | Pt. Hawkesbury..... | 20 | J. F. & A. H. Reeves..... | Pirate Harbour..... | 4 | 30 00 |
| 69,141 | Mary Elisabeth..... | Halifax..... | 16 | Wm. G. Webber..... | Torbay..... | 4 | 24 00 |
| 74,142 | Mary A..... | Lunenburg..... | 45 | Robert Jamieson..... | Canso..... | 3 | 54 00 |
| 83,092 | Maud F..... | Pt. Hawkesbury..... | 11 | Wm. Critchett..... | Steep Creek..... | 2 | 16 50 |
| 80,970 | Orion..... | Halifax..... | 24 | E. B. Pelrine..... | Larry's River..... | 6 | 36 00 |
| 75,892 | Peter Mitchell..... | Pt. Hawkesbury..... | 26 | Wm. & Wm. P. Power..... | Pirate Harbour..... | 4 | 39 00 |
| 36,991 | Vegete..... | Lunenburg..... | 32 | Jno. Maskell..... | Jeddore..... | 4 | 43 20 |

HALIFAX COUNTY.

| | | | | | | | |
|--------|-------------------|----------------|----|--------------------------------|---------------------------|---|-------|
| 77,826 | Abbie G..... | Halifax..... | 31 | Walter Clawson..... | Pleasant Hbr..... | 6 | 46 50 |
| 83,106 | Annie Isabel..... | do | 23 | Peter Bowser, sen., et al..... | Musquodoboit Harbour..... | 5 | 28 02 |
| 73,964 | Aubrey S..... | do | 21 | Jeffrey Gilbert..... | Peppiswick Hbr..... | 3 | 25 20 |
| 36,996 | Agile..... | Lunenburg..... | 27 | Henry A. Shatford..... | Hubbard's Cove..... | 8 | 36 44 |
| 57,727 | Agnes..... | Halifax..... | 21 | John Hayes..... | Herring Cove..... | 6 | 31 50 |
| 61,625 | Alpha..... | do | 18 | Jno. Smith, M.O..... | French Village..... | 7 | 27 00 |
| 74,020 | Addie..... | do | 16 | Denis Fagan, M.O..... | Ketch Harbour..... | 5 | 24 00 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

HALIFAX COUNTY—Continued.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|------------------|-------------------|----------|----------------------------------|----------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 37,619 | British Queen | Halifax | 20 | Wm. Hubley | Spry Bay | 4 | 25 00 |
| 90,721 | Brilliant Star | do | 36 | P. & J. Hartling | East Jeddore | 10 | 54 00 |
| 94,662 | Bessie Florence | do | 12 | Chas. W. Twohig | Pennant | 3 | 15 75 |
| 90,496 | Black Prince | do | 18 | James W. Slaunwhite | Terrence Bay | 4 | 27 00 |
| 92,566 | Cassie M. | do | 13 | W. H. Munro | Sheet Harbour | 3 | 19 50 |
| 75,806 | Can't help it. | do | 57 | Wm. Beazley | Ferguson's Cove | 13 | 85 50 |
| 61,629 | Carrie R. | do | 17 | Jno. Jollimore | Terrence Bay | 3 | 20 40 |
| 85,381 | Champion | do | 17 | Stephen Slaunwhite | do | 4 | 25 50 |
| 74,108 | City Belle | do | 21 | Joseph Graves | East Dover | 4 | 28 35 |
| 85,667 | Dart | do | 10 | Geo. Julyan | W. Chezzetcook | 2 | 15 00 |
| 85,655 | Daisy | do | 16 | C. & W. Johnson | Indian Harbour | 4 | 24 00 |
| 85,663 | Daring | do | 18 | Chas. Slaunwhite | Terrence Bay | 3 | 23 62 |
| 77,607 | Dessie M. | Port Medway | 80 | James T. Thompson | Halifax | 16 | 120 00 |
| 77,607 | Dianthus | Lunenburg | 45 | P. & J. Dauphiney | French Village | 10 | 67 50 |
| 92,564 | Evangeline | Halifax | 23 | D. & G. Baker | West Jeddore | 7 | 34 50 |
| 74,091 | Eastern Clipper | do | 35 | Jno. H. Fader | St. Margarets | 3 | 45 93 |
| 57,259 | Ella | Lunenburg | 40 | Jno. D. Wynaught | North Shore | 9 | 57 00 |
| 90,481 | Ella D. | Halifax | 32 | Archibald Darrach | Herring Cove | 6 | 42 00 |
| 85,738 | Emma F. | do | 13 | Artemas Zink | West Dover | 3 | 17 06 |
| 80,832 | Ella May | Lunenburg | 16 | Amos Murphy, M.O. | French Village | 4 | 24 00 |
| 90,726 | Ellen Maud | Halifax | 16 | Geo. Schnare | Pennant | 4 | 24 00 |
| 94,678 | Extenuate | do | 10 | Alex. Tough | do | 3 | 15 00 |
| 88,227 | Fleetwing | do | 32 | Thos. Lapierre, Sr., et al | W. Chezzetcook | 9 | 43 62 |
| 85,644 | Flora | do | 42 | Patrick Scallion | Herring Cove | 6 | 50 40 |
| 77,751 | Flora Dell | do | 63 | Geo. W. Smith | Indian Harbour | 8 | 94 50 |
| 90,717 | Florence | do | 80 | C. W. Anderson, M.O. | Halifax | 13 | 108 75 |
| 83,180 | Friend | do | 17 | James H. Scott | East Dover | 3 | 19 11 |
| 57,760 | Guardian Angel | do | 36 | Jno. McCarthy | Taylor Head | 7 | 54 00 |
| 90,489 | Greenleaf | do | 44 | James Julien, M.O. | W. Chezzetcook | 12 | 66 00 |
| 85,382 | G. H. Marryat | do | 24 | Edmund A. Creighton | Shad Bay | 6 | 36 00 |
| 37,488 | Gipsy Lass | do | 26 | Jno. P. Slaunwhite | Terrence Bay | 5 | 39 00 |
| 96,782 | Glide | do | 10 | Geo. Burgoyne | Hackett's Cove | 2 | 15 00 |
| 88,220 | Grandeec | do | 14 | Aaron Martin | Pennant | 4 | 21 00 |
| 42,295 | Hero | do | 34 | Peter Mason | Tangier | 7 | 51 00 |
| 92,574 | H. W. Wentzel | do | 36 | Wm. Wentzel et al | W. Chezzetcook | 11 | 54 00 |
| 69,097 | Highland Jane | do | 32 | Geo. Hartlin | East Jeddore | 9 | 45 60 |
| 88,213 | H. H. Belle | do | 13 | Isaiah Covey et al | Indian Harbour | 3 | 19 50 |
| 77,786 | Hesperus | do | 16 | Joseph Reyno | Herring Cove | 3 | 24 00 |
| 83,134 | Infant | do | 14 | Alex. Coolen | do | 5 | 20 50 |
| 83,306 | Iona | do | 26 | Andrew Sullivan | do | 7 | 36 56 |
| 74,105 | J. A. Kirk | do | 16 | Jno. Jackson | Spry Bay | 6 | 24 00 |
| 54,132 | Jessie | do | 21 | P. & A. Myers | Head Jeddore | 7 | 31 50 |
| 75,779 | John Franklin | do | 18 | James Dempsey, Sr. | Herring Cove | 4 | 27 00 |
| 94,665 | John Millard | Barrington | 68 | Thos. H. Renner | Halifax | 13 | 95 20 |
| 94,661 | Louis Luby | Halifax | 41 | Simon Lapierre, M.O. | W. Chezzetcook | 13 | 59 30 |
| 69,105 | L. C. Tough | do | 12 | Jno. E. Tough | Pennant | 4 | 16 20 |
| 74,099 | Lady of the Lake | do | 20 | Edward Walsh | Upper Prospect | 3 | 30 00 |
| 92,572 | Leading Breeze | do | 15 | David F. Covey | Hackett's Cove | 2 | 15 75 |
| 90,722 | Mattie B. | do | 32 | Raymond O'Brien | Ship Harbour | 5 | 48 00 |
| 85,385 | Minnie M. | do | 11 | Jno. Kent | Musquodoboit Harbour | 2 | 13 75 |
| 83,408 | M. A. Franklyn | do | 27 | Wm. Nieforth et al | Seaford | 7 | 36 00 |
| 94,671 | Mary A. W. | do | 22 | Albert Launt | West Dover | 5 | 33 00 |
| 85,664 | Mary E. | do | 13 | Andrew Blaikley | Indian Harbour | 2 | 19 50 |
| 85,653 | Mary O'Dell | do | 14 | Andrew Twohig | Pennant | 3 | 21 00 |
| 92,576 | Mayflower | do | 10 | J. L. Richardson | Indian Harbour | 2 | 15 00 |
| 85,646 | Maude | do | 13 | James Young | Sambro | 3 | 19 50 |
| 59,474 | Merit | do | 15 | Alfred Boutilier | do | 4 | 22 50 |
| 90,716 | New Dominion | do | 41 | Lawson, Harrington & Co | Halifax | 5 | 45 95 |
| 83,107 | North Star | do | 34 | J. & J. Fillis | W. Chezzetcook | 8 | 51 00 |
| | | | 26 | James Lapierre et al | do | 8 | 39 00 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

HALIFAX COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|----------------------|-------------------|----------|----------------------------------|--------------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 85,665 | Nellie D. | Halifax | 12 | Daniel Smith. | Sambro. | 3 | 18 00 |
| 80,843 | Nettie B. H. | do | 23 | Wm. Hearn. | Upper Prospect. | 5 | 31 62 |
| 94,667 | Nettie M. G. | do | 32 | S. Hubly & C. Garrison | Indian Harbour. | 10 | 48 00 |
| 37,608 | Ocean Belle. | do | 68 | James Allen. | Halifax | 5 | 102 00 |
| 64,018 | Ocean Bride. | do | 23 | Mathew Lynch, Jr. | Ferguson's Cove. | 7 | 34 50 |
| 94,679 | Progress. | do | 14 | G. A. Leslie. | Spry Bay. | 1 | 12 60 |
| 88,215 | Peep O' Day. | do | 12 | Isaac Corney. | East Dover. | 2 | 18 00 |
| 92,571 | Primrose. | do | 14 | J. F. Slaunwhite. | Terrence Bay. | 3 | 18 37 |
| 59,462 | Rival. | do | 20 | Henry Faulkner. | Ship Harbour. | 6 | 30 00 |
| 77,729 | Royal Charlie. | do | 31 | James Jennex <i>et al.</i> | East Jeddore. | 12 | 46 50 |
| 77,787 | Rescue. | do | 20 | Edw. Corney. | East Dover. | 6 | 26 24 |
| 88,223 | River Belle. | do | 11 | Jno. D. Christian. | Upper Prospect. | 3 | 16 50 |
| 92,575 | Robinetta. | do | 14 | Wm. S. Henneberry. | Sambro. | 4 | 21 00 |
| 53,551 | Roving Bird. | do | 24 | Jno. Brown. | Herring Cove. | 6 | 36 00 |
| 73,119 | Royal. | do | 12 | Thos. O'Neil. | Halifax. | 3 | 18 00 |
| 37,519 | Safeguide. | do | 36 | Jno. T. Abriel. | Pope's Harbour. | 8 | 54 00 |
| 94,675 | Success. | do | 16 | Isaac Prest. | Spry Bay. | 5 | 24 00 |
| 74,087 | Sea Gem. | do | 30 | Wm. Jennex. | East Jeddore. | 6 | 45 00 |
| 88,229 | Seaway. | do | 22 | Gabriel Murphy. | W. Chezzetcook. | 7 | 33 00 |
| 83,114 | Sailors Fancy. | do | 16 | Lawson Pace. | Hackett's Cove. | 3 | 19 20 |
| 64,869 | Sarah L. Oxner. | do | 33 | Edward Hayes. | Herring Cove. | 7 | 46 40 |
| 83,118 | Spray. | do | 15 | Chas. Fadaer. | St. Margaret's Bay. | 2 | 16 87 |
| 53,600 | Starlight. | do | 29 | Patrick Power. | Herring Cove. | 7 | 40 79 |
| 85,390 | Susan C. | do | 21 | Daniel Croucher. | Hackett's Cove. | 3 | 25 20 |
| 75,833 | Twilight. | do | 14 | Eli Baker. | East Jeddore. | 6 | 21 00 |
| 77,836 | T. W. Smith. | do | 35 | Chas. Beaver. | Spry Bay. | 7 | 52 50 |
| 90,490 | T. W. Wolf. | do | 31 | Robt. Wolf, M. O. | W. Chezzetcook. | 8 | 46 50 |
| 90,494 | Two Brothers. | do | 21 | J. J. Gaetz, M. O. | Seaforth. | 7 | 31 50 |
| 74,118 | True Love. | do | 31 | S. P. Slaunwhite. | Terrence Bay. | 8 | 46 50 |
| 90,482 | Two-Forty. | do | 18 | G. H. Slaunwhite. | do | 3 | 23 62 |
| 61,946 | Union. | do | 23 | Colin Mitchell. | Head Jeddore. | 7 | 34 50 |
| 57,662 | Village Bride. | do | 24 | Andrew Crawford. | Hd. Chezzetcook. | 7 | 33 75 |
| 90,485 | Violet West. | do | 36 | C. Nieforth, M. O. | Seaforth. | 10 | 54 00 |
| 90,488 | Wave. | do | 19 | Jno. Blackburn. | Upper Prospect. | 5 | 28 50 |
| 88,222 | Wave. | do | 15 | Arch. Jollimore. | Terrence Bay. | 3 | 19 68 |
| 83,042 | Western Belle. | do | 23 | Jno. Thomas. | Herring Cove. | 8 | 34 50 |
| 92,578 | Willetta. | do | 12 | Joseph Gray. | Sambro. | 3 | 18 00 |
| 66,727 | Willow. | do | 18 | Jeffry O'Gorman. | Herring Cove. | 2 | 20 24 |
| 75,578 | Wily. | Lunenburg | 13 | James Moraah, jr. | West Dover. | 4 | 16 24 |
| 71,368 | Zelu. | Halifax | 21 | S. & A. Publicover. | do | 5 | 31 50 |
| 85,378 | Zephyr. | do | 14 | R. & W. Slaunwhite. | Terrence Bay. | 2 | 15 74 |

INVERNESS COUNTY.

| | | | | | | | |
|--------|-----------------------|-----------------|----|--------------------------------|--------------------------------|----|--------|
| 90,739 | Arizona. | Pt. Hawkesbury | 49 | W. H. & F. L. M. Paint | Pt. Hawkesbury | 5 | 73 50 |
| 90,731 | Annie E. Paint. | do | 80 | do | do | 10 | 100 00 |
| 75,783 | Crescent. | Arichat. | 27 | Camille White. | Margaree. | 9 | 40 50 |
| 88,343 | Ceylon. | Pt. Hawkesbury | 80 | W. H. & F. L. M. Paint | Pt. Hawkesbury | 13 | 112 00 |
| 37,665 | Defiance. | do | 24 | Jno. Walker. | Riv. Inhabitants | 3 | 36 00 |
| 38,418 | Dolphin. | Arichat. | 36 | C. Robin & Co., Limited | Cheticamp. | 8 | 54 00 |
| 83,082 | Emma. | Pt. Hawkesbury | 24 | Séverin Arseneau. | Margaree. | 7 | 38 00 |
| 41,925 | Euxine. | Arichat. | 38 | Arsène Doucet. | Grand Etang. | 9 | 51 81 |
| 83,088 | Good Intent. | Pt. Hawkesbury | 22 | George Walker. | Basin, River Inhabitants. | 2 | 33 00 |
| 90,734 | Helen M. Crosby. | do | 64 | Peter Paint, jr. | Pt. Hawkesbury | 7 | 70 40 |
| 92,313 | Martha. | Liverpool. | 10 | Eusébe Chiasson. | Eastern Harbour | 4 | 15 00 |
| 69,125 | May Flower. | Halifax | 11 | P. Cormier, <i>et al.</i> | Grand Etang. | 5 | 16 50 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.
INVERNESS COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-----------------|-------------------|----------|----------------------------------|--------------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 69,969 | Morning Light | Pt. Hawkesbury | 39 | David Walker | Basin, River Inhabitants | 5 | 58 50 |
| 69,969 | Quickstep | do | 35 | Lewis Murray | Port Richmond | 4 | 47 25 |
| 64,033 | Ripple | do | 34 | J. W. Cruickshanks | do | 4 | 51 00 |
| 83,096 | St. Patrick | do | 11 | Allan Walsh | Port Hastings | 3 | 14 43 |
| 75,830 | St. Thomas | Guyaboro' | 38 | Médéric Aucoin | Eastern Harbour | 9 | 57 00 |
| 90,733 | Saint Joseph | Pt. Hawkesbury | 27 | Jno. Deaveau | Friar's Head | 5 | 34 70 |
| 83,094 | Saint Mary | do | 15 | Desiré Chiasson | Margaree | 6 | 22 50 |
| 64,718 | Temperance | do | 26 | Jno. McFarlane | do | 8 | 39 00 |
| 92,567 | Trial | Halifax | 13 | M. Chiasson & P. Gallant | do | 5 | 17 87 |
| 73,962 | Willie B | Liverpool | 38 | Wm. Delaney | Friar's Head | 10 | 57 00 |

KING'S COUNTY.

| | | | | | | | |
|--------|-------------|------------|----|------------------|----------------|---|-------|
| 94,727 | Aurelia | Windsor | 21 | H. & J. Parker | Hall's Harbour | 2 | 31 50 |
| 94,721 | Dove | do | 17 | Sylvester Bolsor | Blomidon | 3 | 25 50 |
| 75,430 | Dolphin | Annapolis | 11 | Henry E. Ogilvie | Kingsport | 3 | 16 50 |
| 92,499 | Lorena Jane | Windsor | 11 | Willard Coffill | Blomidon | 2 | 16 50 |
| 85,629 | Unexpected | Parrsboro' | 15 | Fred. Parker | Hall's Harbour | 2 | 22 50 |

LUNENBURG COUNTY.

| | | | | | | | |
|--------|---------------|-----------|----|-----------------------|---------------|----|--------|
| 94,790 | Abana | Lunenburg | 80 | James Romkey, M.O. | LaHave | 14 | 120 00 |
| 90,866 | Alice | do | 12 | Solomon Richard | do | 3 | 18 00 |
| 46,476 | Amiel Corkum | do | 52 | Josiah Wilkie, M.O. | do | 11 | 78 00 |
| 85,739 | Aubrey A | do | 80 | Ben. Anderson | Lunenburg | 14 | 120 00 |
| 94,783 | Alaska | do | 80 | do M.O. | do | 14 | 112 50 |
| 94,965 | Alice B | do | 65 | Adnah Burns | LaHave | 12 | 97 50 |
| 90,870 | Arietis | do | 80 | Chas. Hewitt, M.O. | Lunenburg | 14 | 120 00 |
| 83,176 | Amazon | do | 73 | Edward Hirtle | do | 11 | 104 93 |
| 92,621 | A. G. Heialer | do | 80 | Alfred Heialer, M.O. | Lunenburg | 14 | 120 00 |
| 90,864 | Advance | do | 80 | S. Watson Oxner | do | 17 | 120 00 |
| 94,778 | Argosy | do | 80 | Chas. Smith, M.O. | do | 16 | 120 00 |
| 90,600 | Acadia | do | 79 | David Smith | do | 12 | 118 50 |
| 90,852 | Athlete | do | 78 | Jno. B. Young, M.O. | do | 14 | 117 00 |
| 94,644 | Angler | do | 80 | Arthur H. Zwicker | do | 14 | 120 00 |
| 94,961 | Altona | do | 67 | Emanuel Zellers | do | 13 | 100 50 |
| 94,643 | Batavia | do | 80 | J. Spearwater, M.O. | LaHave | 14 | 120 00 |
| 85,730 | Beulah | do | 80 | Danl. Lohnes, M.O. | do | 14 | 120 00 |
| 94,647 | Bonus | do | 80 | Geo. Kreser | do | 14 | 120 00 |
| 94,651 | Bessie A | do | 80 | Rufus Oxner, M.O. | do | 14 | 120 00 |
| 92,637 | Bertie C. H. | do | 80 | Wm. Gilfoy | Lunenburg | 14 | 120 00 |
| 94,784 | B. C. Smith | do | 80 | Joshua Hirtle | do | 16 | 120 00 |
| 94,782 | Bona Fides | do | 80 | J. Joseph Rudolph | do | 14 | 120 00 |
| 88,341 | Blizzard | do | 80 | A. J. Wolf | do | 16 | 120 00 |
| 85,347 | Brilliant | do | 80 | John B. Young, M.O. | do | 14 | 120 00 |
| 85,345 | Beatrice | do | 79 | Wm. A. Zwicker | do | 15 | 118 50 |
| 90,824 | Ceto | do | 80 | James Conrad, M.O. | LaHave | 14 | 120 00 |
| 94,643 | Carrie M. C. | do | 39 | Norman Chandler | Fox Point | 9 | 53 57 |
| 88,348 | Cymbeline | do | 80 | J. N. Rafuse, M.O. | LaHave | 11 | 120 00 |
| 94,652 | Cashier | do | 80 | W. N. Reinhardt | do | 16 | 120 00 |
| 90,866 | Cleta | do | 80 | W. N. Reinhardt, M.O. | do | 14 | 120 00 |
| 90,857 | Capio | do | 72 | Albt. McKean, M.O. | Pleasantville | 12 | 108 00 |
| 94,645 | C. A. Chisolm | do | 80 | Abraham Ernst | Mahone Bay | 12 | 120 00 |
| 94,658 | C. A. Ernst | do | 57 | do | do | 12 | 120 00 |
| 94,653 | C. U. Mader | do | 80 | C. U. Mader | do | 12 | 120 00 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

LUNENBURG COUNTY—Continued.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|--------------------|-------------------|----------|----------------------------------|----------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 85,642 | Charlotte E. C. | Lunenburg | 80 | C. U. Mader | Mahone Bay | 12 | 120 00 |
| 90,869 | Clara E. Mason | do | 80 | David Smith | do | 12 | 120 00 |
| 94,646 | Carrie C. W. | do | 80 | Martin Westhaver, jr. | Martin's Brook | 14 | 109 41 |
| 92,622 | Coronet | do | 80 | Arthur H. Zwicker | Lunenburg | 14 | 120 00 |
| 88,618 | Darling | do | 80 | J. B. Sarty, M.O. | LaHave | 13 | 115 71 |
| 42,505 | Delight | do | 48 | James W. Zwicker | Mahone Bay | 9 | 72 00 |
| 88,355 | D. A. Mader | do | 80 | C. U. Mader | do | 11 | 115 00 |
| 90,855 | Delta | do | 25 | Joshua Knickle | Lunenburg | 7 | 37 50 |
| 88,358 | Dolphin | do | 80 | Howard Wynacht | do | 10 | 102 84 |
| 85,736 | Dominion | do | 80 | Wm. Young | do | 14 | 120 00 |
| 94,650 | Elsie | do | 47 | John Schmeisser, M.O. | LaHave | 8 | 70 50 |
| 94,960 | Eureka | do | 80 | Rueben Smith, M.O. | do | 14 | 120 00 |
| 83,136 | Eva Stewart | do | 80 | Saml. Risser, M.O. | do | 13 | 120 00 |
| 88,606 | Egeria | do | 80 | J. D. Sperry | Petite Rivière | 15 | 120 00 |
| 75,569 | Empress | do | 47 | Simon Pentz, M.O. | LaHave | 10 | 70 50 |
| 94,659 | Enterprise | do | 80 | Robt. Dawson, M.O. | do | 14 | 120 00 |
| 90,584 | Eldora | do | 75 | Wm. McGregor, M.O. | do | 8 | 112 50 |
| 88,356 | Energy | do | 80 | A. Chisholm | Mahone Bay | 14 | 120 00 |
| 85,731 | Eva L. H. | do | 62 | Jacob Hiltz | do | 10 | 93 00 |
| 69,173 | Ellen May | do | 60 | Abraham Ernst | do | 8 | 90 00 |
| 90,590 | Evelyn | do | 77 | Amiel Corkum | LaHave | 12 | 115 50 |
| 66,749 | Flash | Halifax | 24 | Robt. Coolen, sr | Fox Point | 7 | 33 75 |
| 94,656 | Florin | Lunenburg | 58 | Edward Weagle, M.O. | LaHave | 12 | 76 12 |
| 94,957 | Feronia | do | 77 | James Baggett | Martin's River | 12 | 115 50 |
| 94,771 | Florence M. Smith. | do | 80 | B. Anderson & G. A. Smith. | Lunenburg | 14 | 120 00 |
| 94,952 | Finance | do | 58 | John Hines | do | 10 | 87 00 |
| 88,357 | Floresta | do | 57 | Stephen Moser, M.O. | do | 12 | 85 50 |
| 92,638 | Florence M. | do | 80 | Alex. Silver, M.O. | do | 12 | 120 00 |
| 85,631 | Forest Belle | do | 80 | Leonard Young | do | 12 | 120 00 |
| 94,958 | Genesta | do | 80 | Lemuel Romkey, M.O. | LaHave | 14 | 120 00 |
| 94,963 | Golden Seal | do | 32 | Chas. Bell, M.O. | do | 7 | 48 00 |
| 90,862 | Grenada | do | 80 | Reuben Romkey, M.O. | do | 14 | 120 00 |
| 85,734 | Glenola | do | 80 | Chas. L. Silver, M.O. | Lunenburg | 14 | 120 00 |
| 94,773 | Galatea | do | 80 | Jno. B. Young, M.O. | do | 14 | 120 00 |
| 88,347 | Geneva | do | 80 | James Young | do | 17 | 120 00 |
| 90,582 | G. A. Smith. | do | 80 | Wm. Young | do | 14 | 120 00 |
| 90,859 | Hector W. McG | do | 80 | Wm. McGregor, M.O. | LaHave | 14 | 120 00 |
| 90,585 | Iris | do | 80 | D. Smith, M.O. | Lunenburg | 14 | 120 00 |
| 83,485 | John M. Inglis | Liverpool | 79 | J. S. Wolf, M.O. | West Dublin | 11 | 99 95 |
| 92,639 | Jennie Miller | Lunenburg | 80 | Henry Adams, M.O. | Lunenburg | 12 | 120 00 |
| 94,789 | Joseph McGill | do | 80 | David Ritcey, M.O. | LaHave | 14 | 120 00 |
| 94,785 | J. C. Schwartz | do | 80 | Chas. Hewitt, M.O. | Lunenburg | 16 | 120 00 |
| 94,654 | J. W. Geldert | do | 80 | S. Watson Oxner | do | 17 | 120 00 |
| 85,723 | Jessie A. Loye | do | 80 | Leonard Young | do | 14 | 120 00 |
| 74,019 | Jewel | do | 52 | do | do | 10 | 78 00 |
| 36,495 | Lady Speedwell | do | 56 | John H. Publicover | Blandford | 5 | 84 00 |
| 88,352 | Linaria | do | 80 | Sam. Hilton, M.O. | Petite Rivière | 14 | 120 00 |
| 88,360 | Lettie M. Hardy | do | 80 | W. A. Pickels | Mahone Bay | 20 | 120 00 |
| 94,788 | Laura C. Zwicker | do | 80 | Abraham Ernst | do | 12 | 120 00 |
| 90,854 | Latona | do | 80 | L. Anderson, M.O. | Lunenburg | 12 | 120 00 |
| 94,780 | Lawrence | do | 80 | Simeon Hebb | do | 17 | 120 00 |
| 94,781 | Leonora B. Winter | do | 80 | Isaac Mason | do | 14 | 120 00 |
| 90,867 | Laura A. Smith | do | 80 | S. Watson Oxner | do | 14 | 109 41 |
| 88,351 | Louisa J. Selig | do | 80 | J. Moyle Rudolph, M.O. | do | 14 | 109 41 |
| 83,173 | Maggie Smith | do | 80 | Reuben Smith, M.O. | LaHave | 12 | 120 00 |
| 90,823 | Miletus | Port Medway | 80 | John Shankle, M.O. | do | 14 | 120 00 |
| 94,772 | Molega | Lunenburg | 80 | B. Anderson, M.O. | Lunenburg | 14 | 120 00 |
| 92,640 | Minerva | do | 80 | Wm. C. Acker, M.O. | do | 12 | 120 00 |
| 94,775 | Malabar | do | 80 | R. H. Griffiths, M.O. | do | 14 | 120 00 |
| 92,633 | Magnolia | do | 80 | Joshua Heckman, M.O. | do | 12 | 120 00 |
| 94,777 | Maurice C. Geldert | do | 80 | Anthony Lohnes, M.O. | do | 16 | 120 00 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

LUNENBURG COUNTY—Continued.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty paid. |
|------------------|----------------------|-------------------|----------|----------------------------------|------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 83,177 | Maggie Belle..... | Lunenburg | 72 | Martin Mason, M.O.. | do | 12 | 108 00 |
| 94,951 | Maggie McNeil..... | do | 75 | Frank L. McNeil..... | do | 10 | 112 50 |
| 74,319 | Merino..... | do | 46 | J. Joseph Rudolph.. | do | 9 | 69 00 |
| 92,635 | M. B. Smith..... | do | 80 | Wm. C. Smith, M.O.. | do | 14 | 120 00 |
| 92,632 | Monarch..... | do | 80 | Henry Wilson, M.O.. | do | 14 | 120 00 |
| 90,586 | Morris Wilson..... | do | 80 | do | do | 14 | 120 00 |
| 94,655 | Nevada..... | do | 46 | James Bell, M.O..... | La Have. | 9 | 69 00 |
| 88,603 | Nokomis..... | do | 80 | C. U. Mader..... | Mahone Bay | 14 | 120 00 |
| 88,342 | Nova Zembla..... | do | 80 | Freem'n Anderson, M.O. | Lunenburg | 12 | 120 00 |
| 90,851 | Niagara..... | do | 73 | Henry Gerhardt, M.O. | do | 12 | 109 50 |
| 92,634 | Nellie B..... | do | 80 | Alfred Heisler, M.O.. | do | 16 | 120 00 |
| 88,613 | N. P. Christian..... | do | 80 | do | do | 13 | 120 00 |
| 85,343 | Narcissus..... | do | 80 | S. W. Oxner, M.O..... | do | 14 | 120 00 |
| 94,966 | Nicanor..... | do | 79 | D. Westhaver..... | Martin's Brook.. | 13 | 118 50 |
| 92,636 | Nonpareil..... | do | 80 | John Zinck..... | Lunenburg | 17 | 120 00 |
| 75,570 | Olive Branch..... | do | 14 | John Church..... | Aspotogan | 3 | 21 00 |
| 88,346 | Olive..... | do | 80 | Dan. Getson, M.O..... | La Have. | 14 | 120 00 |
| 94,641 | Ovando..... | do | 80 | Jeffrey Publicover.. | do | 15 | 120 00 |
| 90,587 | Ornatius..... | do | 80 | Albert McKean, M.O.. | Pleasantville | 12 | 120 00 |
| 94,954 | Otto..... | do | 80 | Abraham Ernst..... | Mahone Bay | 12 | 120 00 |
| 88,350 | Orion..... | do | 78 | C. U. Mader..... | do | 11 | 112 12 |
| 90,598 | Osprey..... | do | 80 | Christian Geldert..... | Lunenburg | 14 | 120 00 |
| 88,344 | Onward..... | do | 80 | Charles Hewitt..... | do | 12 | 120 00 |
| 85,632 | Ocean Belle..... | do | 80 | James A. Hirtle..... | do | 12 | 120 00 |
| 94,786 | Ontario..... | do | 80 | Wm. Jefferson..... | do | 17 | 120 00 |
| 85,562 | Oressa..... | do | 14 | Arthur Mason, M.O.. | Eastern Point.. | 4 | 21 00 |
| 94,779 | O. P. Silver..... | do | 80 | Chas. L. Silver, M.O.. | Lunenburg | 14 | 120 00 |
| 74,133 | Pioneer..... | Halifax..... | 80 | David Mills..... | Chester. | 11 | 120 00 |
| 94,774 | Puritan..... | Lunenburg | 80 | Theo. Creaser, M.O.. | La Have. | 14 | 120 00 |
| 77,622 | Pleasantville..... | do | 80 | Albert McKean, M.O.. | do | 14 | 120 00 |
| 85,647 | Pembina..... | do | 80 | L. Anderson, M.O..... | Lunenburg | 15 | 120 00 |
| 85,641 | Pleroma..... | do | 80 | John C. Corkum..... | do | 16 | 120 00 |
| 85,331 | Parisian..... | do | 80 | A. R. Morash, M.O.. | do | 14 | 120 00 |
| 92,631 | Ray..... | do | 11 | Henry Awalt..... | Aspotogan | 3 | 16 50 |
| 90,593 | Ralph..... | do | 51 | Solomon Smith, M.O.. | La Have. | 10 | 76 50 |
| 92,320 | Rialto..... | Liverpool | 46 | L. B. Currie, M.O..... | New Dublin | 9 | 69 00 |
| 57,688 | River Dale..... | Lunenburg | 48 | Lewis Strum..... | Mahone Bay | 10 | 72 00 |
| 85,349 | Rise Over..... | do | 80 | Wm. Smeltzer..... | Lunenburg | 14 | 120 00 |
| 92,629 | Sea Queen..... | do | 21 | George Young..... | Mill Cove. | 5 | 31 50 |
| 94,962 | Stella E..... | do | 80 | Reuben Ritcey, M.O.. | La Have. | 14 | 120 00 |
| 88,349 | Senovar..... | do | 80 | Nathan Hiltz..... | Martin's River.. | 14 | 120 00 |
| 94,787 | Samoa..... | do | 80 | Joseph Dauphinee..... | Lunenburg | 17 | 120 00 |
| 85,350 | Saxon..... | do | 79 | James A. Hirtle..... | do | 12 | 118 50 |
| 85,737 | Scylla..... | do | 80 | James W. King..... | do | 9 | 120 00 |
| 90,868 | Sadie..... | do | 79 | C. Smith, M.O..... | do | 14 | 118 50 |
| 94,955 | Tioga..... | do | 80 | Louis S. Miller..... | LaHave | 14 | 120 00 |
| 92,623 | Torrison..... | do | 80 | Wm. McGregor, M.O.. | do | 14 | 120 00 |
| 35,886 | Trial..... | Halifax..... | 43 | Album Corkum..... | Chester. | 5 | 45 70 |
| 94,657 | T. W. Langille..... | Lunenburg | 71 | Francis Conrad..... | South | 14 | 106 50 |
| 94,956 | Venezuela..... | do | 80 | Wm. Mossman, M.O.. | Kingsbury.. | 14 | 120 00 |
| 83,164 | Valiant..... | do | 80 | Animon Ritcey, M.O.. | LaHave | 12 | 120 00 |
| 85,635 | Vanilla..... | do | 80 | John M. Ritcey, M.O. | do | 14 | 120 00 |
| 94,776 | Volunteer..... | do | 80 | Wm. McGregor, M.O.. | do | 14 | 120 00 |
| 94,649 | Valenar..... | do | 80 | Nathan Hiltz..... | Martin's River.. | 12 | 120 00 |
| 85,338 | Viola..... | do | 80 | Alf. Heisler, M.O..... | Lunenburg | 14 | 120 00 |
| 85,334 | Valorus..... | do | 57 | Benjamin Lohnes..... | do | 12 | 85 50 |
| 88,353 | Violet..... | do | 80 | David Smith, M.O..... | do | 13 | 120 00 |
| 85,735 | Victory..... | do | 80 | Leonard Young..... | do | 14 | 120 00 |
| 90,597 | Vivian..... | do | 80 | A. H. Zwicker..... | Jo | 14 | 120 00 |
| 94,953 | W. D. Richard..... | do | 80 | W. N. Reinhardt, M.O. | LaHave.. | 17 | 120 00 |
| 88,614 | Wilhelmina..... | do | 54 | Edward Neal, M.O..... | do | 9 | 81 00 |
| 94,642 | Winnie C..... | do | 55 | Edmen Walters..... | do | 12 | 82 50 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.
LUNENBURG COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-------------------|-------------------|----------|----------------------------------|-----------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 94,967 | White Cloud | Lunenburg. | 80 | C. W. Mader..... | Mahone Bay.... | 14 | 120 00 |
| 88,174 | W. E. Young..... | do | 80 | Henry Wilson, M.O... | Lunenburg. | 14 | 120 00 |

PICTOU COUNTY.

| | | | | | | | |
|--------|------------|--------------|----|--------------------|--------------|---|-------|
| 38,510 | Lily | Pictou. | 22 | James R. Reid..... | Pictou | 4 | 33 00 |
|--------|------------|--------------|----|--------------------|--------------|---|-------|

QUEEN'S COUNTY.

| | | | | | | | |
|--------|---------------------------|-------------------|----|-------------------------|---------------------|----|--------|
| 92,324 | Arbutus | Liverpool. | 79 | Colin McLeod, M.O... | Liverpool. | 14 | 118 50 |
| 85,482 | Angola | do | 80 | J. C. Innes, M. O. | do | 19 | 120 00 |
| 75,778 | Coronila | do | 64 | Colin McLeod, M.O... | do | 14 | 96 00 |
| 75,620 | Cordelia | Shelburne | 15 | Oliver Tupper | Port Le Bear | 4 | 22 50 |
| 85,344 | Donzella | Lunenburg | 80 | Adam Selig | Vogler's Cove... .. | 14 | 120 00 |
| 33,622 | George | Liverpool. | 30 | Henry A. Rhynard.... | Brooklyn. | 4 | 40 50 |
| 90,825 | Henry N. Batchelder | Port Medway | 80 | S. E. Teel | Vogler's Cove, .. | 14 | 109 42 |
| 83,494 | Lizzie Wharton | do | 80 | W. R. Cohoon | Port Medway | 16 | 116 48 |
| 83,316 | Lottie | do | 80 | S. E. Teel | Vogler's Cove... .. | 14 | 109 42 |
| 83,493 | Mary C. | Liverpool. | 80 | A. W. Hendry, M.O... | Liverpool. | 18 | 120 00 |
| 75,762 | May Queen | do | 17 | Joseph Winters | do | 4 | 25 50 |
| 83,310 | Myosotis | Port Medway | 80 | Asa Morin & Son..... | Port Medway | 20 | 120 00 |
| 83,315 | Mazurka | do | 80 | Wm. Vogler | East P. Medway .. | 14 | 109 42 |
| 80,838 | Ocean Bride | Lunenburg | 20 | Geo. M. Mack | Port Medway | 5 | 25 72 |
| 92,325 | Rattler | Liverpool. | 13 | Wm. Rhynard | Brooklyn. | 3 | 15 60 |
| 83,500 | Stella | do | 10 | Wm. A. Farquhar | Hunt's Point | 3 | 15 00 |
| 83,314 | Spartan | Port Medway | 80 | W. R. Cohoon | Port Medway | 17 | 120 00 |
| 83,495 | Utopia | Liverpool. | 80 | James C. Innes, M.O... | Liverpool. | 15 | 120 00 |

RICHMOND COUNTY.

| | | | | | | | |
|--------|----------------------|----------------------|----|------------------------|-----------------------|----|-------|
| 64,713 | Amelia M. | Port Hawkesb'ry .. | 14 | Andrew Boudrot | Gros-Nez | 3 | 21 00 |
| 83,086 | Ada M. | do | 20 | Wm. Burke | River Bourgeois. | 5 | 27 50 |
| 77,544 | Alpha | Arichat | 41 | Wm. LeVesconte | D'Escousse | 11 | 61 50 |
| 38,501 | R. Weir & Co. | do | 25 | Wm. Bissett | River Bourgeois. | 6 | 32 80 |
| 77,851 | Buxom | Sydney | 11 | Daniel McGrath | L'Ardoise | 3 | 16 50 |
| 75,561 | Boreas | Lunenburg | 41 | John Colford | Port Richmond.. .. | 6 | 61 50 |
| 35,996 | Blue Bell | Arichat | 25 | D. Gruchy & Son..... | Poulaumont | 7 | 35 16 |
| 72,061 | C. P. M. | do | 22 | Désiré Burke | River Bourgeois. | 5 | 28 30 |
| 74,100 | Candid | do | 23 | do | do | 7 | 34 50 |
| 43,109 | Chatham Head | Miramichi, N.B. | 24 | Dominick Fougère | Poulaumont | 9 | 36 00 |
| 61,606 | Edmund Russell | Arichat | 28 | F. L. Malzard | Arichat | 6 | 39 00 |
| 75,616 | Eliza Jane | Shelburne | 22 | Alex. Vigneau | Arichat | 2 | 33 00 |
| 69,190 | Emma | Arichat | 47 | A. J. Boyd | River Bourgeois. | 10 | 70 50 |
| 83,395 | Elerie | Halifax | 29 | Chas. Boudrot | do | 7 | 43 50 |
| 58,477 | Elizabeth | Arichat | 18 | Placide Burke | do | 6 | 27 00 |
| 61,617 | Eva May | Guysboro' | 29 | Daniel Sampson | do | 6 | 38 06 |
| 77,843 | Elizabeth | Halifax | 30 | Isidore Sampson | do | 8 | 45 00 |
| 77,822 | Eliza Smith | Arichat | 44 | Léonie Poirier | Lw'r D'Escousse .. | 11 | 66 00 |
| 74,116 | Fama | Halifax | 43 | Wm. Levesconte | D'Escousse | 10 | 64 50 |
| 83,399 | Fannie R. C. | do | 22 | Peter Boudrot | River Bourgeois. | 7 | 33 00 |
| 57,733 | Farewell | Arichat | 23 | Abram Sampson | West Arichat | 2 | 34 50 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

RICHMOND COUNTY—Continued.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid |
|------------------|-----------------------|-------------------|----------|----------------------------------|--------------------|--------------|-----------------------|
| | | | | | | | \$ cts. |
| 88,599 | Guide..... | Halifax..... | 38 | Désiré Poirier..... | D'Escousse..... | 10 | 57 00 |
| 90,735 | Hector..... | Pt. Hawkesbury | 11 | Joseph Catherin..... | St. Peter's..... | 3 | 16 50 |
| 38,326 | Harriet..... | Arichat..... | 26 | Arthur Leblanc..... | Arichat..... | 3 | 39 00 |
| 85,560 | Jacques..... | Yarmouth..... | 58 | S. & F. Poirier..... | D'Escousse..... | 13 | 87 00 |
| 88,454 | Jubilee..... | Arichat..... | 34 | D. Gruchy & Son..... | Poulamond..... | 9 | 51 00 |
| 80,972 | John Vincin..... | Sydney..... | 17 | David Sampson..... | River Bourgeois. | 6 | 25 50 |
| 83,135 | J. B. M..... | Halifax..... | 20 | Abram Fougère..... | do..... | 7 | 30 00 |
| 38,486 | Julia..... | Arichat..... | 20 | Louis Burk..... | do..... | 6 | 30 00 |
| 83,091 | Jennie..... | Pt. Hawkesbury | 11 | Isaac Dugas..... | ..... | 2 | 16 50 |
| 38,516 | Lady of the Lake..... | Arichat..... | 25 | Peter Landry, jun..... | French Cove..... | 7 | 37 50 |
| 72,071 | Lumen Diei..... | do..... | 20 | Urbain Samson..... | River Bourgeois. | 6 | 30 00 |
| 72,070 | Lennox..... | do..... | 46 | D. Gruchy & Son..... | Poulamond..... | 11 | 69 00 |
| 75,875 | Linda and Lizzie..... | do..... | 56 | Wm. Le Vesconte..... | D'Escousse..... | 14 | 84 00 |
| 88,455 | Laura Victoria..... | do..... | 39 | Jno. Mauger..... | Cap la Ronde..... | 11 | 58 50 |
| 38,459 | Mary Ann..... | do..... | 29 | Alex. Petitpas..... | D'Escousse..... | 9 | 43 50 |
| 46,082 | Mary..... | Pt. Hawkesbury | 43 | D. Gruchy & Son..... | Poulamond..... | 10 | 64 50 |
| 38,417 | Messenger..... | Arichat..... | 30 | Dominick Fougère..... | do..... | 9 | 42 75 |
| 38,413 | Morning Star..... | do..... | 25 | Amable Pâté..... | River Bourgeois. | 9 | 37 50 |
| 83,100 | Morning Star..... | Pt. Hawkesbury | 13 | Abram Gerrior..... | Port Royal..... | 2 | 19 50 |
| 69,109 | Marcella Butler..... | Halifax..... | 38 | Daniel Fougère..... | River Bourgeois. | 7 | 53 44 |
| 88,431 | Mayflower..... | do..... | 21 | Stephen Dugas..... | do..... | 3 | 23 64 |
| 72,047 | Mary Moulton..... | Arichat..... | 26 | Celestin Cordeau..... | do..... | 7 | 36 57 |
| 38,522 | Mary..... | do..... | 23 | Isaiah Boudrot..... | do..... | 4 | 25 86 |
| 85,388 | Mary Alice..... | Halifax..... | 21 | Wm. Malcolm..... | Port Malcolm..... | 3 | *31 50 |
| 72,063 | Mayflower..... | Arichat..... | 12 | M. Burke & M. Fougère..... | French Cove..... | 4 | 16 20 |
| 72,048 | Neptune..... | do..... | 26 | Henry Sampson..... | River Bourgeois. | 6 | 36 21 |
| 42,388 | Nimble..... | Halifax..... | 45 | P. W. Gruchy..... | D'Escousse..... | 8 | 60 74 |
| 54,139 | Ocean Belle..... | do..... | 20 | A. J. Boyd..... | River Bourgeois. | 6 | 30 00 |
| 61,630 | Olive J..... | do..... | 57 | Capt. P. Malcolm..... | Port Malcolm..... | 9 | 85 50 |
| 38,462 | Partners..... | Arichat..... | 25 | Thos. Samson..... | River Bourgeois. | 8 | 37 50 |
| 38,414 | Philomel..... | do..... | 26 | Mathurin Dugas..... | do..... | 8 | 39 00 |
| 72,067 | Philomen D..... | do..... | 22 | Tranquil Digout..... | do..... | 6 | 33 00 |
| 88,452 | R. Ferguson..... | do..... | 24 | A. J. McDonald..... | Lewis Cove..... | 7 | 36 00 |
| 72,059 | Richmond Queen..... | Halifax..... | 37 | Anselm Fougère..... | Poulamond..... | 10 | 55 50 |
| 42,281 | Renfrew..... | do..... | 42 | Simon Poirier..... | D'Escousse..... | 10 | 63 00 |
| 74,335 | Safe..... | Yarmouth..... | 35 | Samuel Burke..... | French Cove..... | 10 | 50 12 |
| 51,781 | S. E. Cove..... | Arichat..... | 54 | Peter Campbell..... | Arichat..... | 12 | 81 00 |
| 36,521 | Shooting Star..... | do..... | 32 | Wm. Le Vesconte..... | D'Escousse..... | 10 | 48 00 |
| 37,612 | Sea Slipper..... | Lunenburg..... | 40 | Chas. Mauger..... | do..... | 11 | 60 00 |
| 38,480 | Two Brothers..... | Arichat..... | 32 | Simon P. Landry..... | River Bourgeois. | 6 | 42 00 |
| 61,990 | Union..... | Halifax..... | 20 | Felix Burke..... | do..... | 6 | 27 86 |
| 38,523 | Victoria..... | Arichat..... | 24 | H. & P. Burke..... | French Cove..... | 6 | 36 00 |
| 71,034 | Vanguard..... | Barrington..... | 47 | Thos. Boudrot..... | Petit de Grat..... | 10 | 70 50 |
| 61,921 | W. E. Wier..... | Arichat..... | 41 | Chas. Fougère, M.O..... | D'Escousse..... | 10 | 58 71 |

SHELBURNE COUNTY.

| | | | | | | | |
|--------|---------------------|-----------------|----|-----------------------|---------------------|----|--------|
| 94,632 | A. C. Greenwood.. | Shelburne..... | 14 | Thos. D. Goodick..... | Sand Point..... | 5 | 19 25 |
| 90,655 | Annina..... | Yarmouth..... | 11 | Isaiah Smith..... | Wood's Harbour..... | 7 | 16 50 |
| 83,054 | Ardella..... | Shelburne..... | 80 | Jonathan Locke..... | Lockeport..... | 16 | 120 00 |
| 88,552 | Afton..... | do..... | 72 | do..... | do..... | 15 | 104 63 |
| 85,479 | Alina..... | do..... | 80 | Churchill Locke..... | do..... | 9 | 84 51 |
| 85,567 | Annie Robertson.. | Barrington..... | 80 | W. W. Kenney..... | do..... | 15 | 110 01 |
| 88,551 | Blanche M. Thorburn | Shelburne..... | 80 | Jno. H. Thorbourn.... | Jordan Bay..... | 22 | 120 00 |

*NOTE.—This amount although reckoned as an expenditure was not paid to the claimants of schooner "Mary Alice," the claim having been found fraudulent after the cheques were issued and the account for the year closed.

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

SHELBURNE COUNTY—Continued.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-----------------------|-------------------|----------|----------------------------------|-----------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 85,490 | Billy Brown..... | Shelburne..... | 80 | Enos Churchill..... | Lockeport..... | 16 | 120 00 |
| 94,942 | Coronilla..... | do..... | 23 | C. Locke & Co..... | do..... | 8 | 34 50 |
| 61,905 | Champion..... | Liverpool..... | 14 | Jos. W. Hopkins..... | Barrington..... | 4 | 18 90 |
| 75,624 | Devina..... | Shelburne..... | 52 | Wm. Lloyd..... | Lockeport..... | 11 | 72 00 |
| 83,492 | Dessie..... | Liverpool..... | 11 | Churchill Locke..... | do..... | 4 | 14 85 |
| 83,043 | Ella A. Downie..... | Shelburne..... | 73 | Enos Churchill..... | do..... | 13 | 105 50 |
| 77,603 | Eldon C..... | Barrington..... | 27 | Jno. E. Hopkins..... | Barrington..... | 10 | 40 50 |
| 75,558 | Emma B..... | do..... | 80 | Wm. T. Wickens..... | do..... | 20 | 120 00 |
| 83,047 | Festina Lente..... | Shelburne..... | 80 | Wm. A. McDonald..... | Lockeport..... | 16 | 110 55 |
| 85,476 | Fleetwing..... | do..... | 11 | Edward Hammond..... | Jordan Bay..... | 6 | 16 50 |
| 83,255 | Floyd..... | Annapolis..... | 20 | Thos. D. Crowell..... | Shag Harbour..... | 10 | 30 00 |
| 80,831 | Glide..... | Lunenburg..... | 16 | Jacob Lloyd..... | West Head..... | 6 | 24 00 |
| 88,555 | G. C. Kelly..... | Shelburne..... | 80 | W. W. Kenney..... | Lockeport..... | 17 | 120 00 |
| 85,478 | Glenora..... | do..... | 75 | John Locke..... | do..... | 14 | 112 50 |
| 85,568 | Georgie Harold..... | Barrington..... | 80 | W. W. Kenney..... | do..... | 16 | 120 00 |
| 85,563 | Helena Maud..... | do..... | 80 | H. Doane..... | Barrington..... | 20 | 120 00 |
| 85,570 | Hattie Dell..... | do..... | 80 | W. W. Kenney..... | Lockeport..... | 16 | 113 34 |
| 94,941 | John Purney..... | Shelburne..... | 80 | John Purney..... | Shelburne..... | 16 | 110 55 |
| 88,554 | Jersey Lily..... | do..... | 80 | Enos Churchill..... | Lockeport..... | 16 | 120 00 |
| 85,566 | J. Lyons..... | Barrington..... | 15 | Thos. L. Banks..... | Barrington..... | 4 | 18 76 |
| 77,761 | Knight Templar..... | Shelburne..... | 80 | Enos Churchill..... | Lockeport..... | 18 | 116 85 |
| 77,957 | Kedron..... | Annapolis..... | 21 | Churchill Locke..... | do..... | 5 | 31 50 |
| 61,837 | Laughing Waters..... | Yarmouth..... | 32 | Raymond Wilson..... | Barrington..... | 12 | 48 00 |
| 54,114 | Lone Star..... | Halifax..... | 29 | C. Locke & Co..... | Lockeport..... | 9 | 43 50 |
| 94,639 | Libbie..... | Shelburne..... | 80 | Jno. A. McGowan, jun..... | Shelburne..... | 16 | 120 00 |
| 85,488 | Mabel Somers..... | do..... | 80 | Enos Churchill..... | Lockeport..... | 16 | 120 00 |
| 85,484 | Mellacoree..... | do..... | 80 | Geo. J. Thorbourne..... | Shelburne..... | 18 | 114 00 |
| 85,477 | Myrtle..... | Barrington..... | 80 | D. V. Kenney..... | Cape Island..... | 19 | 120 00 |
| 75,560 | Matilda..... | do..... | 80 | Arthur McGray..... | do..... | 13 | 108 75 |
| 83,256 | Marquis of Lorne..... | Annapolis..... | 26 | Churchill Locke..... | Lockeport..... | 6 | 34 12 |
| 88,543 | Max O'Rell..... | Shelburne..... | 80 | do..... | do..... | 17 | 113 70 |
| 74,301 | Minnihaha..... | Barrington..... | 13 | S. E. Countaway..... | Barrington..... | 5 | 19 50 |
| 88,583 | Mary O'Dell..... | Yarmouth..... | 14 | Jno. Sholes..... | Bear Point..... | 6 | 21 00 |
| 74,365 | Nova Stella..... | Shelburne..... | 52 | Wm. Lloyd..... | Lockeport..... | 13 | 78 00 |
| 83,060 | Nellie Morrow..... | do..... | 80 | C. Locke & Co..... | do..... | 16 | 120 00 |
| 55,830 | Oregon..... | do..... | 20 | Jno. C. McGray..... | Cape Sable Isl'd..... | 3 | 30 00 |
| 37,523 | Snow Drop..... | Liverpool..... | 29 | James Crowell..... | Port La Tour..... | 5 | 43 50 |
| 90,690 | Sandalphon..... | Shelburne..... | 80 | C. Locke & Co..... | Lockeport..... | 17 | 113 70 |
| 85,483 | Sarah H. Seeton..... | do..... | 80 | do..... | do..... | 19 | 117 00 |
| 59,496 | Thetia..... | Lunenburg..... | 41 | do..... | do..... | 13 | 61 50 |
| 77,759 | Thomas Robertson..... | Shelburne..... | 66 | Stephen Giffin..... | Louis Head..... | 10 | 99 00 |
| 88,542 | Three Bells..... | do..... | 80 | Sephorus Thorburn..... | Jordon..... | 19 | 120 00 |
| 77,744 | Whip-poor-will..... | do..... | 15 | Jno. B. Harding..... | Rockland..... | 6 | 22 50 |
| 85,487 | Willie McGowan..... | do..... | 80 | Jno. A. McGowan, jun..... | Shelburne..... | 23 | 120 00 |
| 85,541 | Willie M..... | Yarmouth..... | 24 | Isaac Kendrick..... | Barrington..... | 9 | 34 20 |
| 74,336 | Zouave..... | Barrington..... | 19 | Jno. M. Shand..... | do..... | 7 | 23 34 |

VICTORIA COUNTY.

| | | | | | | | |
|--------|------------|-------------|----|----------------------|--------------|---|-------|
| 77,858 | Sambo..... | Sydney..... | 14 | Arthur Campbell..... | R. Side..... | 3 | 21 00 |
|--------|------------|-------------|----|----------------------|--------------|---|-------|

YARMOUTH COUNTY.

| | | | | | | | |
|--------|-------------------|----------------|----|---------------------------|--------------|----|--------|
| 80,627 | Annie D..... | Yarmouth..... | 71 | Geo. D. D'Entremont..... | Pubnico..... | 14 | 106 50 |
| 71,030 | Arizona..... | do..... | 80 | Sylv. D. D'Entremont..... | do..... | 14 | 120 00 |
| 61,595 | Annie Louise..... | Shelburne..... | 39 | Harvey Goodwin..... | do..... | 15 | 53 64 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.
YARMOUTH COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-------------------|-------------------|----------|----------------------------------|---------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 80,647 | Annie M. Bell. | Yarmouth | 64 | James Amiro | West Pubnico | 21 | 96 00 |
| 71,007 | Alfarata | do | 45 | M. D'Entremont | Pubnico | 17 | 67 50 |
| 75,733 | Alfred | do | 46 | Parker, Eakins & Co. | Yarmouth | 10 | 69 00 |
| 90,653 | Alba | do | 58 | G. G. Sanderson | do | 19 | 87 00 |
| 66,682 | Briak | do | 67 | Leon D'Eon | Pubnico | 20 | 100 50 |
| 85,549 | Byron | do | 80 | Byron Hines | do | 18 | 120 00 |
| 80,605 | Coral Leaf | do | 71 | Geo. B. Goodwin | do | 14 | 106 50 |
| 85,536 | Circassian | do | 80 | Jeremiah Gayton | Lower Argyle | 16 | 120 00 |
| 69,217 | Chlorus | do | 57 | A. F. Stoneman & Co. | Yarmouth | 14 | 80 16 |
| 66,679 | Diploma | do | 80 | Louis D'Eon | Pubnico | 15 | 116 25 |
| 90,883 | Donald Cann | do | 80 | H. B. Cann | Yarmouth | 18 | 120 00 |
| 90,871 | Dora | do | 63 | A. F. Stoneman & Co. | do | 18 | 92 01 |
| 88,552 | Edith A. | do | 80 | Geo. D. D'Entremont | Pubnico | 15 | 120 00 |
| 80,646 | Emma S. | Yarmouth | 80 | Geo. Bates | Yarmouth | 21 | 120 00 |
| 53,811 | Electric Flash | Halifax | 53 | David D'Entremont | Pubnico | 19 | 79 50 |
| 85,551 | Ethel | Yarmouth | 80 | J. H. Porter & Co. | Tusket Wedge | 17 | 116 67 |
| 90,654 | Flora | do | 64 | David D'Entremont | Pubnico | 20 | 96 00 |
| 75,720 | Florence B. Parr | do | 80 | Parker, Eakins & Co. | Yarmouth | 17 | 120 00 |
| 94,972 | Florence | do | 11 | Joshua Boudreau | Tusket | 2 | 16 50 |
| 90,885 | Georgiana | do | 80 | Eli Leblanc | Tusket Wedge | 16 | 120 00 |
| 80,643 | Hazel Dell | do | 80 | Parker, Eakins & Co. | Yarmouth | 14 | 120 00 |
| 85,554 | Hazel Glen | do | 80 | T. J. Perry | Arcadia | 16 | 120 00 |
| 90,647 | Hattie Emeline | do | 11 | Peter A. Amiro | Pubnico | 2 | 16 50 |
| 80,641 | Jonathan | do | 68 | David L. Amiro | do | 17 | 102 00 |
| 88,581 | Kingfisher | do | 47 | A. F. Stoneman & Co. | Yarmouth | 17 | 70 50 |
| 71,005 | Kelso | do | 80 | J. H. Porter & Co. | Tusket Wedge | 19 | 120 00 |
| 90,887 | L'Etoile | do | 48 | do | do | 16 | 72 00 |
| 80,614 | Louise | do | 80 | do | do | 16 | 120 00 |
| 80,632 | Lumen | do | 30 | do | do | 13 | 45 00 |
| 90,888 | Laura I. | do | 54 | Chas. M. Boudreau | do | 18 | 81 00 |
| 61,587 | Lucretia Jane | do | 80 | A. M. Perrin | Yarmouth | 17 | 120 00 |
| 80,624 | Lima | do | 12 | Henry Lewis | do | 5 | 18 00 |
| 51,972 | Lydia Ryder | do | 57 | Louis D'Entremont | W. Pubnico | 18 | 76 48 |
| 80,648 | Maria | do | 30 | Byron Hines | Pubnico | 20 | 120 00 |
| 88,596 | M. A. Louis | do | 63 | Marc A. Surette | do | 20 | 94 50 |
| 61,510 | Mansimalo | Shelburne | 50 | Remi D'Entremont | W. Pubnico | 13 | 64 60 |
| 75,550 | Martino | Barrington | 11 | A. A. Amiro | L. E. Pubnico | 5 | 15 13 |
| 94,635 | Mildred J. McLean | Yarmouth | 80 | H. B. Cann | Yarmouth | 18 | 120 00 |
| 74,339 | Maitland | do | 44 | Henry Lewis | do | 16 | 66 00 |
| 90,874 | Maggie Bell | do | 10 | Doctrove Surette | do | 4 | 11 79 |
| 90,892 | Nellie | do | 59 | J. H. Porter & Co. | Tusket Wedge | 18 | 88 50 |
| 74,330 | Nokomis | do | 68 | T. R. Crosby | Yarmouth | 13 | 98 36 |
| 90,659 | N. A. Laura | do | 59 | Julien D'Entremont | W. Pubnico | 20 | 88 50 |
| 85,553 | Onyx | do | 80 | Parker, Eakins & Co. | Yarmouth | 18 | 120 00 |
| 80,645 | Opal | do | 80 | do | do | 16 | 120 00 |
| 74,332 | Proditor | do | 54 | Zachariah D'Eon | W. Pubnico | 18 | 78 87 |
| 80,628 | Roseneath | do | 80 | Byron Hines | Pubnico | 16 | 120 00 |
| 74,323 | Regina | do | 57 | Archange D'Entremont | do | 15 | 78 39 |
| 75,724 | Sea Foam | do | 75 | J. H. Porter & Co. | Tusket Wedge | 14 | 112 50 |
| 85,535 | Sigefroi | do | 40 | do | do | 15 | 60 00 |
| 90,648 | Stranger | do | 15 | Alf. H. D'Entremont | Pubnico | 6 | 20 90 |
| 90,894 | Theresa | do | 18 | Eli Bourque | Fel Brook | 2 | 16 50 |
| 90,881 | Tiger | do | 57 | G. G. Sanderson | Yarmouth | 17 | 81 00 |
| 88,597 | Unde Sam | do | 80 | Geo. D. D'Entremont | Pubnico | 16 | 120 00 |
| 90,882 | Will-o-the-Wisp | do | 51 | Anthony D'Entremont | do | 19 | 76 50 |
| 66,685 | Wide Awake | do | 77 | A. F. Stoneman & Co. | Yarmouth | 14 | 115 50 |
| 90,896 | Wapiti | do | 80 | do | do | 18 | 120 00 |
| 90,897 | Wrasse | do | 56 | do | do | 15 | 75 16 |
| 71,334 | Watchman | Barrington | 15 | P. L. Walker | Tusket | 6 | 20 90 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-------------------------|---------------------|----------|-------------------------------------|-----------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 88,288 | Annie May | St. Andrews | 11 | Lewis Frankland | Grand Manan | 2 | 13 75 |
| 92,487 | Alice Maud | Windsor, N.S. | 12 | James Barry | Beaver Harbour | 3 | 18 00 |
| 83,478 | Argyle | St. Andrews | 10 | Joseph Murphy | Le Tête | 3 | 15 00 |
| 83,469 | Austin P | do | 12 | Jno. Marshall | Deer Island | 4 | 18 00 |
| 92,517 | Ada | do | 10 | Wm. Philips | Campobello | 2 | 15 00 |
| 75,599 | Blue Jay | Digby, N.S. | 14 | Eben. Gaskill | Grand Manan | 4 | 21 00 |
| 59,311 | Blooming Rose | St. Andrews | 19 | Aaron Cook | Deer Island | 5 | 28 50 |
| 88,290 | Craoe | do | 13 | James Starkey | St. Andrews | 3 | 19 50 |
| 92,519 | Catherine | do | 13 | Alex. McKenzie | Grand Manan | 2 | 14 62 |
| 88,387 | Comet | Windsor, N.S. | 10 | Thos. Carter | Red Head | 2 | 15 00 |
| 35,338 | Caroline | St. Andrews | 18 | Henry Stuart | Deer Island | 4 | 24 30 |
| 59,375 | Cadet | do | 13 | Chas. Savage | Wilson's Beach | 3 | 19 50 |
| 88,409 | Carrie | Digby, N.S. | 12 | James McLoose | Back Bay | 2 | 15 00 |
| 74,326 | Dreadnaught | Yarmouth, N.S. | 19 | Wm. Mathews | Campobello | 4 | 28 50 |
| 92,515 | Dispute | St. Andrews | 13 | Melvin Patch | do | 3 | 19 50 |
| 92,503 | Defiance | do | 17 | Frank Calder | do | 4 | 25 50 |
| 88,253 | E. B. Colwell | St. John | 19 | Geo. F. Paul <i>et al.</i> | Beaver Harbour | 3 | 28 50 |
| 80,803 | Exenia | Windsor, N.S. | 18 | Wm. F. Parker <i>et al.</i> | Cornwallis, N.S. | 4 | 27 00 |
| 59,373 | E. M. Oliver | St. Andrews | 14 | Wm. J. & Jas. Oliver, jr. | Back Bay | 1 | 13 12 |
| 88,280 | E. B. Lane | do | 12 | Theo. H. McConnell | do | 2 | 15 00 |
| 88,281 | Eastern State | do | 22 | Nelson W. Dick <i>et al.</i> | Le Tête | 3 | 33 00 |
| 92,505 | Edith R. | do | 47 | Lincoln Richardson | West Isles | 8 | 70 50 |
| 77,968 | Empress | do | 14 | G. & M. Caffay | Mace's Bay | 3 | 21 00 |
| 92,516 | Emma | do | 22 | Wm. Shaw <i>et al.</i> | Lepreaux | 3 | 26 40 |
| 92,502 | Elizabeth Ann | do | 14 | Thos. Haggerty | New River | 4 | 18 90 |
| 80,882 | Ella Mable | do | 14 | Daniel Calder | Campobello | 3 | 21 00 |
| 92,511 | Fleet Wing | do | 11 | Addison Matthews | St. George | 2 | 16 50 |
| 59,400 | Foam Belle | do | 10 | Thos. Ellsworth <i>et al.</i> | Pennfield | 3 | 15 00 |
| 79,963 | Freeman Colgate | do | 26 | Aretas English | Deer Island | 6 | 39 00 |
| 59,393 | Fannie | do | 12 | James A. Greenlow | Lord's Cove | 3 | 14 40 |
| 88,276 | Falcon | do | 12 | Wm. Brown | Wilson's Beach | 3 | 18 00 |
| 94,834 | Flora Woster | do | 22 | Henry Burnham | Grand Manan | 3 | 33 00 |
| 92,508 | Grey Eagle | do | 13 | Nehemiah Mitchell | Campobello | 3 | 19 50 |
| 59,396 | Gurtie Westbrooke | do | 16 | James Cline | Deer Island | 5 | 22 00 |
| 75,728 | George Killam | Digby, N.S. | 30 | Sidney L. Justason | Pennfield | 5 | 45 00 |
| 94,835 | Georgie Linwood | St. Andrews | 25 | Joshua Hawkins <i>et al.</i> | do | 5 | 37 50 |
| 80,650 | Happy Home | Yarmouth, N.S. | 14 | Michael Nodding | Beaver Harbour | 3 | 21 00 |
| 75,587 | Happy Return | Weymouth, N.S. | 13 | Daniel Campbell | Dipper Harbour | 3 | 15 60 |
| 59,394 | Hattie | St. Andrews | 10 | Chas. Harkins | do | 3 | 15 00 |
| 83,463 | Havelock | do | 33 | Wm. James | Wilson's Beach | 4 | 49 50 |
| 83,465 | Look Out | do | 48 | Alf. W. Ingersoll | Grand Manan | 4 | 64 80 |
| 83,464 | Little Annie | do | 19 | E. & J. Holmes | Le Tête | 5 | 28 50 |
| 51,734 | Lavinia | do | 13 | Lewis Stanley | North Head | 3 | 15 60 |
| 59,118 | Linnet | St. John | 29 | H. & C. Trynor | Beaver Harbour | 4 | 43 50 |
| 59,399 | Leona | St. Andrews | 12 | David Lasley <i>et al.</i> | Back Bay | 3 | 15 75 |
| 59,395 | Little Minnie | do | 11 | Joseph McGee | do | 2 | 13 75 |
| 59,342 | Lizzie S. McGee | do | 14 | Andrew McGee | do | 4 | 18 90 |
| 88,273 | Lillian E. | do | 13 | do | do | 2 | 14 62 |
| 83,474 | Letter B. | do | 12 | Sophia Cook | Le Tête | 3 | 18 00 |
| 59,388 | Letitia | do | 10 | Frank Johnson | Deer Island | 3 | 13 13 |
| 75,598 | Lizzie Jane | Digby, N.S. | 18 | Gilbert Green | West Islands | 5 | 24 75 |
| 77,965 | Lydia B. | St. Andrews | 12 | Jno. M. Calder | Campobello | 3 | 18 00 |
| 59,321 | Little Nell | do | 21 | Wm. McLellan | do | 6 | 31 50 |
| 80,881 | Lena May | do | 18 | George Kirkpatrick | do | 4 | 27 00 |
| 88,407 | Linnet | Digby, N.S. | 15 | Alva Brown | Wilson's Beach | 3 | 22 50 |
| 83,472 | Lindon | St. Andrews | 12 | Oliver G. Brown | do | 2 | 18 00 |
| 77,970 | Mary Emeline | do | 18 | Calvados Brown | do | 3 | 27 00 |
| 88,271 | Magellan Cloud | do | 20 | Simon Brown | do | 5 | 30 00 |
| 59,125 | Mount Whatley | St. John | 28 | Hugh Belmore | Dipper Harbour | 3 | 36 75 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

CHARLOTTE COUNTY—Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-------------------|-------------------|----------|----------------------------------|-----------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 92,514 | Maggie Jane | St. Andrews | 10 | Victoria A. Cook | Mascarene | 3 | 15 00 |
| 59,326 | Maud Holmes | do | 21 | Jacob Cook | Le Tête | 3 | 25 20 |
| 38,109 | Mary | Yarmouth, N.S. | 16 | James Thompson | Black's Harbour | 2 | 20 00 |
| 85,442 | Mystery | Windsor, N.S. | 14 | E. & S. Munroe | Beaver Harbour | 3 | 21 00 |
| 88,277 | Maggie Jane | St. Andrews | 18 | S. B. & A. Cross | Pennfield | 3 | 21 60 |
| 92,501 | Maybe | do | 11 | Jno. Kelly | White Head | 2 | 13 75 |
| 88,402 | Mizpah | Digby, N. S. | 52 | Eben Gaskill | Grand Manan | 9 | 68 25 |
| 94,833 | Newsboy | St. Andrews | 16 | Ernest Lank | Wilson's Beach | 2 | 18 00 |
| 77,967 | Naomi | do | 14 | Wm. James | do | 3 | 21 00 |
| 75,602 | Ocean Lily | Digby, N. S. | 17 | Thos. Mitchell | Campobello | 6 | 25 50 |
| 94,837 | Olga | St. Andrews | 11 | Lincoln Richardson | West Isles | 2 | 13 75 |
| 75,716 | Onward | Yarmouth, N. S. | 10 | John Watt | North Head | 3 | 15 00 |
| 92,518 | Peril | St. Andrews | 18 | Martin Eldridge, et al | Pennfield | 3 | 23 62 |
| 59,383 | Pilgrims Progress | do | 16 | Arthur Porter | Campobello | 3 | 24 00 |
| 75,591 | Rise and Go | do | 16 | Wm. Sirls | do | 3 | 24 00 |
| 75,547 | River Rose | Barrington, N.S. | 13 | E. C. Bowers | Westport, N. S. | 3 | 19 50 |
| 88,287 | Satellite | St. Andrews | 26 | Milton Eldridge, et al | Pennfield | 5 | 39 00 |
| 88,284 | Sea Foam | do | 13 | Dan'l Leavitt | L'Etang | 2 | 19 50 |
| 88,272 | Simeon H. Bell | do | 14 | Edward Mathews | Le Tête | 3 | 21 00 |
| 59,357 | Silver Bell | do | 13 | John Malloch | Wilson's Beach | 3 | 19 50 |
| 59,387 | Telephone | do | 19 | Joseph McGee | Back Bay | 6 | 26 47 |
| 88,414 | Trumpet | St. John | 20 | Andrew Holmes | Beaver Harbour | 4 | 27 00 |
| 92,504 | Tiger | St. Andrews | 15 | J. & Geo. Nesbitt | North Head | 3 | 22 50 |
| 83,468 | Village Belle | do | 15 | Allan P. Dixon | do | 4 | 22 50 |
| 88,282 | Veritas | do | 10 | Chas. Mathews | Le Tête | 3 | 15 00 |
| 35,331 | Victor | do | 16 | Frank Campbell | Dipper Harbour | 5 | 24 00 |
| 94,832 | Venus | do | 42 | Simon Brown | Wilson's Beach | 7 | 63 00 |
| 77,969 | Wave Queen | do | 11 | Wm. McMahon | Le Tête | 2 | 12 38 |
| 83,427 | Zoulu | Weymouth, N.S. | 12 | Eben Gaskill | Grand Manan | 4 | 18 00 |

GLOUCESTER COUNTY.

| | | | | | | | |
|--------|---------------|--------------|----|------------------------|-----------------|---|-------|
| 92,419 | Anna | Chatham | 12 | Docité Chiasson (Jos.) | Lamèque | 4 | 18 00 |
| 72,099 | Adelina | do | 12 | Auguste Poulin | do | 3 | 18 00 |
| 96,725 | Bessie T | do | 10 | C. C. Turner | Tracadie | 3 | 15 00 |
| 72,079 | Betsy | do | 13 | Sebastien Noel | Little Lamèque | 3 | 19 50 |
| 61,431 | Bee | do | 11 | Paul Noel | Lamèque | 4 | 16 50 |
| 61,409 | Belmont | Miramichi | 13 | Angus McLean | Bathurst | 2 | 16 25 |
| 92,412 | Dollie Dutton | Chatham | 13 | J. & R. Young | Tracadie | 3 | 17 07 |
| 96,723 | Emma | do | 15 | Ludger Duguay | Shippegan Is'd. | 3 | 22 50 |
| 92,417 | Evangeline | do | 11 | Jno. & R. Young | Tracadie | 5 | 16 50 |
| 61,445 | Flavie | do | 13 | Theophile Duguay | Lamèque | 3 | 19 50 |
| 61,437 | Flying Fish | do | 11 | Eli Chiasson | Little Lamèque | 3 | 16 50 |
| 92,418 | Grip | do | 12 | James Davidson | Tracadie | 4 | 18 00 |
| 61,425 | Hope | do | 13 | R. Robin | Caraget | 3 | 17 07 |
| 96,724 | Isabel | do | 11 | Peter Noel | Lamèque | 3 | 16 50 |
| 92,420 | Mary Louise | do | 13 | Wm LeBreton | Pokemouche | 3 | 17 06 |
| 88,669 | Morning Star | do | 12 | Gustave Gionet | Ste. Rose | 3 | 18 00 |
| 92,413 | Mary Jane | do | 14 | Theodore Savoy | Tracadie | 4 | 21 00 |
| 61,442 | Marie Cécile | do | 15 | Oliver Duguay | Lamèque | 4 | 22 50 |
| 72,100 | Marie | do | 11 | Onesime Chiasson | do | 3 | 16 50 |
| 61,447 | Merida | do | 13 | André Aché, sr. | do | 3 | 19 50 |
| 33,652 | Marie Louise | New Carlisle | 16 | Nap. H. Roy | Petit Rocher | 3 | 24 00 |
| 85,692 | Mary | Chatham | 11 | Jos. N. LeBoutillier | Caraget | 3 | 16 50 |
| 92,403 | Maria | Miramichi | 25 | Ubalde Landry | Grande Anse | 4 | 37 50 |
| 72,076 | Providence | Chatham | 12 | Eutrope Duguay | Shippegan | 3 | 18 00 |
| 61,406 | Reward | do | 11 | Jos. N. LeBoutillier | Caraget | 3 | 16 50 |
| 96,727 | Ryse | do | 11 | Jeremiah Aché | Shippegan | 3 | 16 50 |
| 61,438 | Rosane | do | 13 | Lange Duguay | Petit Lamèque | 4 | 19 50 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.--Continued.
GLOUCESTER COUNTY--Concluded.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|------------------|-------------------|----------|----------------------------------|------------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 92,404 | Rosa | Chatham..... | 17 | Octave Aché, sr..... | Lamèque | 4 | 25 50 |
| 85,696 | Rose | do | 11 | Mara Basque..... | Tracadie..... | 3 | 16 50 |
| 92,408 | Sarah A. W. | do | 15 | Robt. J. Wilson..... | Wilson's Point.. | 3 | 22 50 |
| 74,401 | Sara | do | 11 | Nazaire Noel..... | Lamèque..... | 3 | 16 50 |

KENT COUNTY.

| | | | | | | | |
|--------|-------------------|-----------------|----|------------------|-----------------|---|-------|
| 83,105 | Katie Bell | Richibucto..... | 11 | Jno. Bell..... | Richibucto..... | 4 | 16 50 |
| 83,104 | Minnie Long | do | 20 | Wm. Long..... | do | 2 | 25 00 |
| 61,411 | Telegraph | do | 20 | Frank Hawes..... | Kingston | 4 | 30 00 |

NORTHUMBERLAND COUNTY.

| | | | | | | | |
|--------|--------------------|----------------|----|-----------------------|-----------------|----|-------|
| 61,417 | Belle..... | Miramichi..... | 12 | James Bremner..... | Chatham..... | 3 | 18 00 |
| 75,904 | Empress | Chatham | 26 | Robert R. Call..... | do | 6 | 39 00 |
| 88,668 | General Middleton. | do | 67 | William S. Loggie.... | do | 13 | 96 92 |
| 75,891 | May Queen..... | do | 23 | R. R. Call..... | do | 4 | 34 50 |
| 74,368 | Maggie Roach..... | do | 44 | William S. Loggie.... | do | 13 | 66 00 |
| 78,044 | Princess Louise... | do | 21 | R. R. Call..... | do | 5 | 31 50 |
| 75,895 | Two Brothers..... | do | 26 | do | do | 6 | 39 00 |
| 72,091 | White Wings..... | do | 19 | Thomas B. Williston.. | Baie du Vin.... | 4 | 28 50 |

RESTIGOUCHE COUNTY.

| | | | | | | | |
|--------|-------------|--------------|----|---------------------|----------------|---|-------|
| 80,950 | Jessie..... | Chatham..... | 14 | Simon McGregor..... | Dalhousie..... | 3 | 21 00 |
|--------|-------------|--------------|----|---------------------|----------------|---|-------|

ST. JOHN COUNTY.

| | | | | | | | |
|--------|--------------------|-----------------|----|-------------------------|-----------------|---|-------|
| 80,093 | Anna K..... | St. John..... | 14 | William Spence..... | Portland, N.B.. | 4 | 21 00 |
| 72,246 | Alpha..... | do | 21 | C. & J. Cobham..... | Carleton..... | 3 | 27 56 |
| 79,977 | Amanda Green..... | do | 15 | Sam'l Hutton..... | do | 3 | 22 50 |
| 57,171 | Anna Bell..... | St. Andrew's... | 19 | William Stinson, et al. | Pisarinco..... | 4 | 28 50 |
| 72,192 | Ada..... | St. John..... | 19 | J. K. Ferguson, et al. | do | 4 | 28 50 |
| 80,072 | Buena Vista..... | do | 14 | John McNulty, sen... | Musquash..... | 3 | 21 00 |
| 85,972 | Dove..... | do | 11 | Samuel Maguire..... | Pisarinco..... | 3 | 16 50 |
| 99,926 | Emma..... | do | 13 | David Thompson..... | Musquash..... | 3 | 15 60 |
| 85,508 | G. P. Taylor..... | do | 14 | D. G. Toole, et al. | Carleton..... | 3 | 21 00 |
| 57,181 | Hattie..... | Windsor, N.S.. | 13 | S. & J. J. Galbraith.. | Pisarinco..... | 4 | 19 50 |
| 83,259 | Hettie May..... | Annapolis, N.S. | 15 | John Butler..... | Musquash..... | 5 | 22 50 |
| 88,261 | Little Joe..... | St. John..... | 18 | Joseph O'Brien..... | Carleton..... | 4 | 27 00 |
| 88,266 | Lizzie Young..... | do | 13 | Nathaniel Young..... | Pisarinco..... | 5 | 19 50 |
| 52,159 | Mary E..... | do | 21 | Frederick Buchanan.. | Carleton..... | 4 | 31 50 |
| 72,973 | Sea Breeze..... | Digby, N.S.... | 13 | Daniel Tolan, et al. | Musquash..... | 5 | 19 50 |
| 59,322 | Sea Flower..... | St. John..... | 11 | James Thompson..... | do | 3 | 16 50 |
| 59,156 | Tom..... | do | 14 | Peter Boyle..... | do | 5 | 21 00 |
| 59,313 | U. S. Grant..... | Yarmouth, N.S. | 33 | J. & R. Hutton..... | Carleton..... | 5 | 49 50 |
| 80,630 | Vanity..... | do | 14 | Wallace E. Belding... | Musquash..... | 5 | 16 50 |
| 72,321 | Widgeon..... | St. John..... | 10 | James Kennedy..... | St. John..... | 2 | 12 50 |
| 88,264 | Walter J. Clarke.. | do | 20 | George H. McAuly..... | Carleton..... | 5 | 30 00 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

PRINCE EDWARD ISLAND.
KING'S COUNTY.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|---------------------|-----------------------|----------|----------------------------------|-----------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 66,428 | Albert | Charlottetown | 40 | James A. Herring..... | Murray Harbour | 5 | 60 00 |
| 66,242 | Amorette..... | do | 18 | Peter Roberts..... | do | 5 | 27 00 |
| 69,132 | Belle of the Bay .. | Guysboro' | 20 | Isaac Kirby..... | do | 6 | 30 00 |
| 92,675 | Can't Help it..... | Pictou, N.S. | 39 | John Herring..... | do | 6 | 58 50 |
| 83,196 | Ethel Blanche..... | do | 12 | Reuben Cahoon..... | do | 4 | 18 00 |
| 71,412 | Emerald..... | Charlottetown | 25 | James Burke..... | Georgetown..... | 1 | 21 42 |
| 88,644 | Hattie..... | do | 18 | Henry Dicks..... | Murray Harbour | 4 | 27 00 |
| 83,198 | Harriet..... | Pictou, N.S. | 27 | William Reynolda..... | do | 8 | 40 50 |
| 75,566 | Julia A..... | Lunenburg, N.S. | 15 | James McKinnon..... | do | 4 | 22 50 |
| 92,458 | Jubilee..... | Charlottetown | 76 | Malcolm McDonald..... | Georgetown..... | 15 | 110 44 |
| 75,882 | Lord McDonald..... | do | 15 | David Cahoon..... | Murray Harbour | 4 | 22 50 |
| 83,095 | Mary Margaret..... | Port Hawkesbury, N.S. | 17 | John Cahoon..... | do | 4 | 25 50 |
| 80,937 | Montague..... | Charlottetown | 16 | Michael Jackson..... | do | 4 | 24 00 |
| 90,639 | Morell..... | do | 16 | Edward Delcry..... | Georgetown..... | 1 | 15 00 |
| 88,230 | Morning Light..... | Halifax, N.S. | 28 | Julius Cox..... | Morell..... | 5 | 42 00 |
| 92,469 | Nutwood..... | Charlottetown | 80 | John McLean..... | Souris..... | 14 | 112 50 |

PRINCE COUNTY.

| | | | | | | | |
|--------|--------------------|---------------|----|------------------------|-----------------|----|-------|
| 72,081 | Annie..... | Chatham, N.B. | 13 | John McDonald | Campbelton..... | 2 | 19 50 |
| 71,310 | Black Watch..... | Charlottetown | 23 | Benjamin Perry..... | Kildare..... | 5 | 34 50 |
| 82,086 | Charlie..... | do | 64 | J. H. Myrick & Co..... | Tignish..... | 12 | 81 90 |
| 88,642 | Express..... | do | 46 | John Champion..... | Alberton..... | 13 | 69 00 |
| 55,829 | Enma McMillan .. | Pictou, N.S. | 20 | John Coughlan..... | Campbelton..... | 3 | 30 00 |
| 80,946 | Janet A..... | Chatham, N.B. | 29 | Donald Hanrithan..... | Tignish..... | 4 | 43 50 |
| 66,948 | Lois..... | Charlottetown | 67 | John A. Matheson..... | Campbelton..... | 12 | 93 32 |
| 59,663 | Lettie..... | do | 57 | J. H. Myrick & Co..... | Tignish..... | 15 | 85 50 |
| 92,455 | Mikado..... | do | 38 | Terrence Farrell..... | Alberton..... | 4 | 44 79 |
| 77,619 | Milford Guy..... | do | 60 | James S. Gordon..... | do | 12 | 90 00 |
| 74,155 | Maggie McBeth..... | do | 26 | J. P. Thompson..... | Campbelton..... | 5 | 39 00 |
| 72,087 | Spy..... | Chatham, N.B. | 18 | Isaac Lewis..... | Alberton..... | 2 | 20 24 |

QUEEN'S COUNTY.

| | | | | | | | |
|--------|---------------------|---------------|----|---------------------|-----------------|---|-------|
| 92,464 | Eliza M..... | Charlottetown | 17 | William Bell..... | New London..... | 4 | 21 26 |
| 92,466 | G. H. Gardiner..... | do | 17 | E. Marshall..... | N. Rustico..... | 6 | 25 50 |
| 94,993 | Onward..... | do | 15 | William Keizer..... | Tracadie..... | 6 | 22 50 |

DETAILED STATEMENT of Fishery Bounties paid to Vessels, &c.—Continued.

PROVINCE OF QUEBEC.

GASPÉ COUNTY.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount of Bounty Paid. |
|------------------|-----------------------|-------------------|----------|----------------------------------|-----------------|--------------|------------------------|
| | | | | | | | \$ cts. |
| 73,495 | Canadienne..... | Halifax, N.S..... | 53 | J. N. Arseneau..... | Amherst..... | 9 | 69 54 |
| 55,642 | Delaney..... | Magdalen Isl'ds. | 44 | Camille Delaney..... | House Harbour. | 8 | 52 25 |
| 58,391 | Esperance..... | do | 31 | Célestin Boudreau..... | Aubert..... | 8 | 45 91 |
| 71,357 | Emma Gidney..... | Halifax, N.S..... | 47 | Damien Devaux..... | do | 10 | 70 50 |
| 77,604 | E. D. Myra..... | Lunenburg, N.S. | 43 | F. H. Delaney..... | House Harbour. | 10 | 59 12 |
| 73,029 | F. P. T..... | Magdalen Isl'ds. | 41 | Camille Delaney..... | do | 8 | 55 34 |
| 85,393 | Formosa..... | do | 43 | P. P. Delaney..... | do | 10 | 59 12 |
| 77,612 | Gold Hunter..... | do | 41 | Edwd. Bourque..... | do | 7 | 52 26 |
| 73,024 | Marie Enésie..... | do | 47 | W. G. Leslie..... | Grindstone..... | 8 | 58 74 |
| 73,025 | Marie Euphrosyne..... | do | 39 | Jno. Binet..... | Etang du Nord.. | 9 | 51 18 |
| 73,493 | Marie Joseph..... | do | 56 | Philippe Gaudin..... | House Harbour. | 7 | 66 50 |
| 73,491 | Mary Jane..... | do | 47 | Jno. Binet..... | do | 8 | 58 74 |
| 75,577 | Mary Ann Bell..... | Lunenburg, N.S. | 33 | Jno. Arseneault..... | do | 7 | 44 00 |
| 73,021 | Marie Anne..... | Magdalen Isl'ds. | 46 | do | do | 10 | 63 24 |
| 38,351 | Nancy..... | Arichat, N.S..... | 17 | Alcide Cormier..... | Amherst..... | 3 | 25 50 |
| 73,028 | Richard B..... | Magdalen Isl'ds. | 32 | Herbert Taker..... | Grosse Ile..... | 1 | 26 40 |

SAGUENAY COUNTY.

| | | | | | | | |
|--------|-------------------------|-------------------|----|------------------------------|------------------|----|-------|
| 57,742 | Acara..... | Halifax, N.S..... | 30 | Fred. Jomphe..... | Esquimaux Pt.. | 7 | 45 00 |
| 42,436 | Amelia..... | Gaspé..... | 50 | P. Cormier & Bros..... | do | 10 | 75 00 |
| 74,270 | Amarilda..... | Quebec..... | 24 | L. & M. Pineau..... | Bic..... | 4 | 36 00 |
| 59,468 | Busy..... | do | 39 | Vigneau & Blais..... | Esquimaux Pt.. | 7 | 58 50 |
| 63,370 | C. M. G. P..... | do | 46 | G. Picard..... | do | 10 | 69 00 |
| 61,966 | D. Cronan..... | Halifax, N.S..... | 40 | P. Lemarquand..... | do | 8 | 60 00 |
| 66,028 | Emerillon..... | Quebec..... | 14 | Auguste Michaud..... | Ile Verte..... | 4 | 21 00 |
| 80,754 | Eugénie..... | do | 48 | Vigneau & Blais..... | Esquimaux Pt.. | 8 | 72 00 |
| 59,909 | Elizabeth..... | do | 27 | Luc Cormier..... | do | 7 | 40 50 |
| 85,459 | Florida..... | do | 13 | Wm. Michaud..... | Ile Verte..... | 2 | 19 50 |
| 75,679 | Gleaner..... | do | 41 | S. Landry & Bros..... | Esquimaux Pt.. | 9 | 61 50 |
| 85,750 | H. B..... | do | 57 | H. & J. B. Boudreau..... | do | 8 | 85 50 |
| 85,753 | Java..... | do | 46 | Dom. Cormier..... | do | 11 | 69 00 |
| 42,435 | Labrador..... | Gaspé..... | 43 | P. Doyle & Bros..... | do | 8 | 64 50 |
| 77,868 | Léodora..... | Quebec..... | 39 | F. X. Corriveau..... | do | 8 | 58 50 |
| 55,863 | Marie Adelmina..... | do | 13 | C. Levesque..... | Ile Verte..... | 5 | 19 50 |
| 80,766 | Marie Anne..... | do | 17 | Thos. Riverin..... | Malbaie..... | 3 | 25 50 |
| 77,886 | Marie Laure Attala..... | do | 27 | P. Michaud..... | Ile Verte..... | 3 | 40 50 |
| 69,584 | Marie Louise..... | do | 23 | Narcisse Rioux..... | Quebec..... | 3 | 34 50 |
| 55,912 | Marie Louise..... | do | 14 | Pierre Ouelette..... | do | 4 | 21 00 |
| 69,580 | Marie Anne..... | Gaspé..... | 35 | Dominique Landry..... | Esquimaux Pt.. | 7 | 52 50 |
| 42,434 | Marguerite..... | do | 27 | Michel Gasson..... | do | 6 | 40 50 |
| 69,382 | MariéduSacréCœur | do | 46 | Turbis, Briand & Landry..... | do | 10 | 69 00 |
| 77,866 | Pioneer..... | do | 39 | Picard & Lebrun..... | do | 9 | 58 50 |
| 75,445 | Phoenix..... | do | 28 | P. Vigneau & Bros..... | do | 7 | 39 37 |
| 42,437 | Progress..... | do | 52 | Boudreau & Leblanc..... | do | 7 | 78 00 |
| 83,360 | Ste. Anne..... | do | 13 | Pierre Fraser..... | N. D., Ile Verte | 2 | 19 50 |
| 73,026 | Ste. Anne..... | do | 20 | do | Ile Verte..... | 2 | 30 00 |
| 75,680 | Sea Star..... | Quebec..... | 52 | Jude Poirier..... | Betchouan..... | 9 | 78 00 |
| 80,753 | Stella Maris..... | do | 51 | L. Cummings & Bros..... | Esquimaux Pt.. | 10 | 76 50 |
| 69,659 | St. Joseph..... | do | 18 | Turgeon & Corriveau..... | do | 6 | 27 00 |
| 69,591 | Ste. Marie..... | do | 37 | Alex. Scherrer..... | do | 7 | 55 50 |

The following Vessel claims for 1888, held in abeyance, were paid in 1889-90.

PROVINCE OF NOVA SCOTIA.

HALIFAX COUNTY.

| Official Number. | Name of Vessel. | Port of Registry. | Tonnage. | Name of Owner or Managing Owner. | Residence. | No. of Crew. | Amount Paid. |
|------------------|--------------------|-------------------|----------|----------------------------------|------------------|--------------|--------------|
| | | | | | | | \$ cts. |
| 57,727 | Agnes..... | Halifax..... | 21 | John Hayes..... | Herring Cove... | 6 | 31 50 |
| 90,496 | Black Prince..... | do..... | 18 | Jas. W. Slaunwhite... | Terence Bay.... | 4 | 24 30 |
| 75,806 | Can't Help It..... | do..... | 57 | Wm. Beazley..... | Ferguson's Cove. | 13 | 85 50 |
| 61,629 | Carrie R..... | Guysboro'..... | 16 | James Reyno..... | Herring Cove... | 1 | 15 00 |
| 90,481 | Ella D..... | Halifax..... | 32 | Archd. Darrah..... | do..... | 7 | 48 00 |
| 85,644 | Flora..... | do..... | 41 | Patrick Scallion..... | do..... | 10 | 61 50 |
| 77,786 | Hesperus..... | do..... | 16 | Joseph Reyno, sen... | do..... | 4 | 21 60 |
| 83,135 | J. B. M..... | do..... | 20 | Henry Brown..... | do..... | 4 | 30 00 |
| 61,939 | Margaret..... | do..... | 22 | Frs. G. Henrion..... | Ferguson's Cove. | 4 | 33 00 |
| 64,018 | Ocean Bride..... | do..... | 23 | Mathew Lynch..... | do..... | 8 | 34 50 |
| 53,551 | Roving Bird..... | do..... | 24 | John Brown..... | Herring Cove... | 6 | 36 00 |
| 64,869 | Sarah L. Oxner.... | do..... | 33 | Edward Hayes..... | do..... | 8 | 49 50 |
| 53,600 | Star Light..... | do..... | 29 | Mark Power..... | do..... | 8 | 43 50 |
| 77,836 | T. W. Smith..... | do..... | 34 | Wm. Hayes..... | do..... | 8 | 48 16 |

PROVINCE OF NEW BRUNSWICK.

NORTHUMBERLAND COUNTY.

| | | | | | | | |
|--------|--------------------|-----------------|----|-------------------|--------------|---|-------|
| 59,371 | A. J. Franklin.... | St. Andrewa.... | 53 | W. S. Loggie..... | Chatham..... | 8 | 60 95 |
|--------|--------------------|-----------------|----|-------------------|--------------|---|-------|

PROVINCE OF PRINCE EDWARD ISLAND.

KING'S COUNTY.

| | | | | | | | |
|--------|-------------------|------------------|----|---------------------|-------------|----|--------|
| 92,452 | Ella Blanche..... | Charlottetown... | 76 | McEachern & Co..... | Souris..... | 11 | 98 80 |
| 90,621 | Maggie Alice..... | do..... | 79 | James Lanigan..... | do..... | 7 | 83 61 |
| 92,469 | Nutwood..... | do..... | 80 | John McLean..... | do..... | 16 | 120 00 |
| 90,632 | Samuel Drake..... | do..... | 67 | do..... | do..... | 10 | 83 75 |

COMPARATIVE STATEMENTS.

COMPARATIVE STATEMENT of Fishing Bounties Paid, from 1882 to 1889, inclusive.

| Number. | Province. | County. | 1882. | | | 1883. | | | 1884. | | | Number. |
|---------|----------------|----------------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|------------|---------|
| | | | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | |
| | | | Amount. | Amount. | Amount. | Amount. | Amount. | Amount. | Amount. | Amount. | Amount. | |
| 1 | Nova Scotia. | Annapolis | 472 00 | 1,998 00 | 2,470 00 | 888 00 | 1,207 50 | 2,045 50 | 648 00 | 1,503 50 | 2,151 50 | 1 |
| 2 | | Antigonish | 840 00 | 840 00 | 840 00 | 436 00 | 2,803 50 | 3,289 50 | 383 00 | 3,909 00 | 4,292 00 | 2 |
| 3 | | Cape Breton | 294 00 | 5,167 00 | 5,461 00 | 436 00 | 2,803 50 | 3,289 50 | 383 00 | 3,909 00 | 4,292 00 | 3 |
| 4 | | Colchester | | | | | | | 64 00 | | 64 00 | 4 |
| 5 | | Cumberland | | 20 00 | 20 00 | | | | | 7 50 | 7 50 | 5 |
| 6 | | Digby | 1,436 00 | 4,118 66 | 5,554 66 | 2,652 00 | 2,182 50 | 4,834 50 | 3,322 84 | 2,234 50 | 5,557 34 | 6 |
| 7 | | Guyaboro | 2,380 73 | 7,913 75 | 10,294 48 | 2,914 00 | 4,645 00 | 7,559 00 | 3,371 90 | 6,485 50 | 9,857 40 | 7 |
| 8 | | Halifax | 3,599 50 | 11,118 31 | 14,717 81 | 6,020 00 | 6,040 50 | 12,100 50 | 5,334 00 | 7,898 00 | 13,732 00 | 8 |
| 9 | | Inverness | 950 00 | 5,432 00 | 6,382 00 | 572 00 | 3,422 50 | 3,994 50 | 1,208 00 | 4,522 00 | 5,730 00 | 9 |
| 10 | | King's | 46 00 | 125 00 | 171 00 | 146 00 | 157 50 | 303 50 | 196 00 | 70 50 | 266 50 | 10 |
| 11 | | Lunenburg | 15,161 03 | 3,112 00 | 18,273 03 | 17,658 00 | 1,850 00 | 19,508 00 | 19,648 24 | 3,162 00 | 22,810 24 | 11 |
| 12 | | Pictou | 262 00 | 95 00 | 357 00 | 202 00 | 120 00 | 322 00 | 177 76 | 107 50 | 285 26 | 12 |
| 13 | | Queen's | 1,638 00 | 1,917 00 | 3,555 00 | 1,826 00 | 810 00 | 2,636 00 | 2,408 00 | 886 50 | 3,244 50 | 13 |
| 14 | | Richmond | 3,853 15 | 7,998 50 | 11,851 65 | 3,558 00 | 4,225 00 | 7,783 00 | 3,265 58 | 6,325 50 | 9,591 08 | 14 |
| 15 | | Shelburne | 7,294 00 | 4,332 00 | 11,626 00 | 8,744 00 | 2,326 50 | 11,070 50 | 8,928 27 | 2,781 50 | 11,709 77 | 15 |
| 16 | | Victoria | 284 00 | 4,861 00 | 5,145 00 | 492 00 | 2,830 50 | 3,322 50 | 60 00 | 4,045 50 | 4,105 50 | 16 |
| 17 | | Yarmouth | 7,825 09 | 1,615 00 | 9,440 09 | 9,486 00 | 695 00 | 10,181 00 | 9,758 00 | 971 50 | 10,729 50 | 17 |
| 18 | | Totals | 45,436 50 | 60,663 22 | 106,098 72 | 55,544 00 | 33,888 50 | 89,432 50 | 59,274 59 | 45,659 50 | 104,934 09 | 18 |
| 19 | New Brunswick. | Charlotte | | 5,641 00 | 7,781 00 | 2,380 00 | 2,830 00 | 5,210 00 | 2,792 00 | 3,035 00 | 5,827 00 | 19 |
| 20 | | Gloucester | 2,140 00 | 5,368 00 | 7,508 00 | 492 00 | 3,568 50 | 4,060 50 | 506 00 | 4,799 00 | 5,307 00 | 20 |
| 21 | | Kent | 768 00 | 965 00 | 1,733 00 | 265 00 | 1,197 50 | 1,463 50 | 246 00 | 764 50 | 1,010 50 | 21 |
| 22 | | Northumberland | | 45 00 | 45 00 | 68 00 | 52 50 | 120 50 | 66 00 | 68 00 | 134 00 | 22 |
| 23 | | Restigouche | 28 00 | 28 00 | 28 00 | 52 00 | | 52 00 | | | | 23 |
| 24 | | St. John | 984 00 | 591 00 | 1,575 00 | 861 20 | 587 50 | 1,448 70 | 956 00 | 260 00 | 1,216 00 | 24 |
| 25 | | Westmoreland | | 45 00 | 45 00 | | 40 00 | 40 00 | | 81 50 | 81 50 | 25 |
| 26 | | Totals | 4,342 00 | 12,655 00 | 16,997 00 | 4,119 20 | 8,276 00 | 12,386 20 | 4,568 00 | 9,008 00 | 13,576 00 | 26 |

COMPARATIVE STATEMENT OF Fishing Bounties Paid, from 1882 to 1889, inclusive.

| Number. | Province. | County. | 1882. | | | | 1883. | | | | 1884. | | | | Number. |
|---------|--------------------|------------------|-----------|------------|------------|-----------|------------|-----------|-----------|------------|-----------|-----------|------------|------------|---------|
| | | | Vessels. | Boats. | Total. | \$ | cts. | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | \$ | |
| | | | Amount. | Amount. | | | | Amount. | Amount. | | Amount. | Amount. | | | |
| 27 | P. E. Island..... | King's..... | \$ | \$ | \$ | cts. | cts. | \$ | \$ | cts. | \$ | \$ | \$ | cts. | 37 |
| 28 | | Prince..... | 252 00 | 5,024 00 | 5,276 00 | 252 00 | 5,024 00 | 253 14 | 2,790 50 | 3,043 64 | 475 44 | 3,028 00 | 3,503 44 | 3,503 44 | 28 |
| 29 | | Queen's..... | 316 00 | 6,709 00 | 7,025 00 | 316 00 | 6,709 00 | 418 00 | 3,429 50 | 3,847 50 | 520 00 | 3,642 00 | 4,162 00 | 4,162 00 | 29 |
| 30 | | Totals..... | 210 00 | 3,626 00 | 3,836 00 | 210 00 | 3,626 00 | 96 00 | 1,550 00 | 1,646 00 | 65 02 | 1,473 50 | 1,538 52 | 1,538 52 | 30 |
| 31 | Quebec..... | Beauport..... | 778 00 | 15,369 00 | 16,137 00 | 778 00 | 15,369 00 | 807 14 | 7,770 00 | 8,577 14 | 1,060 46 | 8,143 50 | 9,203 96 | 9,203 96 | 31 |
| 32 | | Gaspé..... | ..... | 8,945 00 | 8,945 00 | ..... | 8,945 00 | ..... | 3,846 50 | 3,846 50 | ..... | 5,508 00 | 5,508 00 | 5,508 00 | 32 |
| 33 | | Limouski..... | 2,070 00 | 17,899 75 | 19,969 75 | 2,070 00 | 17,899 75 | 2,152 00 | 9,302 50 | 11,454 50 | 1,906 00 | 13,879 50 | 15,785 50 | 15,785 50 | 33 |
| 34 | | Saguenay..... | 2,360 00 | 1,773 00 | 4,133 00 | 2,360 00 | 1,773 00 | 2,320 01 | 2,319 00 | 4,639 01 | 2,023 09 | 4,687 50 | 6,711 43 | 6,711 43 | 34 |
| 35 | | Temiscouata..... | ..... | 15 00 | 15 00 | ..... | 15 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 35 |
| 36 | | Totals..... | 4,420 00 | 28,632 75 | 33,052 75 | 4,420 00 | 28,632 75 | 4,472 01 | 15,468 00 | 19,940 01 | 3,929 93 | 24,075 00 | 28,004 93 | 28,004 93 | 36 |
| 37 | Nova Scotia..... | ..... | 45,435 50 | 60,653 22 | 106,088 72 | 45,435 50 | 60,653 22 | 55,544 00 | 33,888 50 | 89,432 50 | 59,274 59 | 45,659 50 | 104,934 09 | 104,934 09 | 37 |
| 38 | New Brunswick..... | ..... | 4,342 00 | 12,655 00 | 16,997 00 | 4,342 00 | 12,655 00 | 4,119 20 | 8,276 00 | 12,395 20 | 4,563 00 | 9,008 00 | 13,576 00 | 13,576 00 | 38 |
| 39 | P. E. Island..... | ..... | 778 00 | 15,359 00 | 16,137 00 | 778 00 | 15,359 00 | 807 14 | 7,770 00 | 8,577 14 | 1,040 46 | 8,143 50 | 9,203 96 | 9,203 96 | 39 |
| 40 | Quebec..... | ..... | 4,420 00 | 28,632 75 | 33,052 75 | 4,420 00 | 28,632 75 | 4,472 01 | 15,468 00 | 19,940 01 | 3,929 93 | 24,075 00 | 28,004 93 | 28,004 93 | 40 |
| 41 | | Totals..... | 54,975 50 | 117,309 97 | 172,285 47 | 54,975 50 | 117,309 97 | 64,942 35 | 65,402 50 | 130,344 85 | 68,832 98 | 86,886 00 | 155,718 98 | 155,718 98 | 41 |

RECAPITULATION.

COMPARATIVE STATEMENT of Fishing

| Number. | 1885. | | | 1886. | | | 1887. | |
|---------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | Vessels. | Boats. |
| | Amount. | Amount. | | Amount. | Amount. | | Amount. | Amount. |
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| 1 | 430 08 | 1,180 00 | 1,610 08 | 431 60 | 1,063 50 | 1,495 10 | 305 27 | 1,162 00 |
| 2 | | 982 50 | 982 50 | | 832 00 | 832 00 | | 924 50 |
| 3 | 210 00 | 4,012 50 | 4,222 50 | 392 00 | 3,765 00 | 4,157 00 | 374 14 | 3,600 00 |
| 4 | 74 00 | | 74 00 | 74 00 | | 74 00 | 74 00 | |
| 5 | | | | | | | | |
| 6 | 3,036 02 | 1,993 00 | 5,029 02 | 2,131 79 | 1,924 50 | 4,056 29 | 2,671 34 | 1,582 50 |
| 7 | 3,312 53 | 7,129 50 | 10,442 03 | 2,936 90 | 7,521 00 | 10,457 90 | 2,210 58 | 7,963 50 |
| 8 | 5,984 77 | 8,398 00 | 14,382 77 | 4,947 02 | 8,200 50 | 13,147 52 | 5,097 61 | 8,333 50 |
| 9 | 884 00 | 4,913 50 | 5,797 50 | 1,294 12 | 5,265 00 | 6,559 12 | 1,582 88 | 5,091 00 |
| 10 | 54 00 | 185 50 | 239 50 | 96 00 | 297 50 | 393 50 | 218 00 | 242 00 |
| 11 | 17,315 34 | 2,947 00 | 20,262 34 | 16,755 64 | 3,122 00 | 19,877 64 | 16,154 33 | 3,751 50 |
| 12 | 154 00 | 132 00 | 286 00 | 156 00 | 94 50 | 250 50 | | 130 00 |
| 13 | 1,854 00 | 1,190 50 | 3,044 50 | 1,814 60 | 957 00 | 2,781 00 | 1,650 00 | 1,212 50 |
| 14 | 3,164 49 | 7,046 00 | 10,210 49 | 2,650 00 | 6,941 00 | 9,591 00 | 2,762 86 | 7,704 00 |
| 15 | 9,198 00 | 3,201 50 | 12,399 50 | 7,880 67 | 3,072 00 | 10,952 67 | 6,678 62 | 3,687 00 |
| 16 | 166 00 | 4,487 00 | 4,653 00 | 222 20 | 4,599 50 | 4,821 70 | 88 00 | 4,600 50 |
| 17 | 9,415 50 | 968 50 | 10,384 00 | 8,513 60 | 829 00 | 9,342 60 | 8,539 40 | 1,230 50 |
| 18 | 55,252 73 | 48,767 00 | 104,019 73 | 50,295 54 | 48,494 00 | 98,789 54 | 48,407 03 | 51,215 00 |
| 19 | 2,508 25 | 3,937 00 | 6,445 25 | 2,579 67 | 4,246 00 | 6,825 67 | 3,292 65 | 4,681 50 |
| 20 | 452 00 | 5,876 00 | 6,328 00 | 516 00 | 6,462 00 | 6,978 00 | 618 75 | 7,136 00 |
| 21 | 184 00 | 1,309 50 | 1,493 50 | 206 00 | 1,473 50 | 1,679 50 | 370 00 | 1,728 50 |
| 22 | 180 00 | 80 50 | 260 50 | 592 00 | 80 50 | 672 50 | 445 00 | 229 00 |
| 23 | | | | 28 00 | 7 00 | 35 00 | | |
| 24 | 902 00 | 367 50 | 1,269 50 | 1,054 40 | 424 00 | 1,478 40 | 786 25 | 291 00 |
| 25 | | 111 50 | 111 50 | | 225 50 | 225 50 | | 121 00 |
| 26 | 4,226 25 | 11,682 00 | 15,908 25 | 4,976 07 | 12,918 50 | 17,894 57 | 5,512 65 | 14,187 00 |

Bounties Paid, from 1882 to 1889, Inclusive.

| | 1888. | | | 1889. | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|---------|
| Total. | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | Grand Total. | Number. |
| | Amount. | Amount. | | Amount. | Amount. | | | |
| \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | |
| 1,467 27 | 217 01 | 1,153 50 | 1,370 51 | 182 31 | 1,044 00 | 1,226 31 | 13,836 27 | 1 |
| 924 50 | | 1,063 50 | 1,063 50 | | 1,012 00 | 1,012 00 | 6,936 50 | 2 |
| 3,974 14 | 423 33 | 3,618 00 | 4,041 33 | 307 47 | 3,470 00 | 3,777 47 | 33,214 94 | 3 |
| 74 00 | 85 50 | | 85 50 | | | | 371 50 | 4 |
| | | | | | | | 27 50 | 5 |
| 4,253 84 | 1,696 68 | 1,749 50 | 3,446 18 | 1,721 61 | 1,608 00 | 3,329 61 | 36,061 44 | 6 |
| 10,174 06 | 1,289 71 | 8,274 50 | 9,564 21 | 974 57 | 8,093 00 | 9,067 57 | 77,416 67 | 7 |
| 13,431 11 | 3,809 99 | 7,806 00 | 11,615 99 | 4,367 08 | 7,789 00 | 12,156 08 | 105,283 78 | 8 |
| 6,673 88 | 1,247 90 | 5,432 00 | 6,679 90 | 1,037 96 | 5,170 00 | 6,207 96 | 48,024 86 | 9 |
| 460 00 | 123 45 | 272 50 | 395 96 | 112 50 | 212 00 | 324 50 | 2,554 45 | 10 |
| 19,905 83 | 13,893 81 | 3,794 00 | 17,687 81 | 17,184 42 | 3,577 00 | 20,761 42 | 159,086 31 | 11 |
| 130 00 | | 110 50 | 110 50 | 33 00 | 120 00 | 153 00 | 1,834 26 | 12 |
| 2,862 50 | 1,495 82 | 1,174 00 | 2,669 82 | 1,524 06 | 1,499 00 | 3,023 06 | 23,816 38 | 13 |
| 10,466 86 | 2,390 65 | 8,108 50 | 10,499 15 | 2,825 92 | 6,534 00 | 9,359 92 | 79,353 65 | 14 |
| 10,365 62 | 5,193 59 | 3,842 50 | 9,036 09 | 4,127 80 | 4,240 00 | 8,367 80 | 85,527 95 | 15 |
| 4,688 50 | 36 00 | 4,963 50 | 4,999 50 | 21 00 | 5,030 00 | 5,051 00 | 36,786 70 | 16 |
| 9,769 90 | 5,661 46 | 868 50 | 6,519 96 | 5,428 81 | 896 00 | 6,324 81 | 72,691 86 | 17 |
| 96,622 03 | 37,564 90 | 52,221 00 | 89,785 90 | 39,848 51 | 50,294 00 | 90,142 51 | 782,825 02 | 18 |
| | | | | | | | | |
| 7,974 15 | 2,113 50 | 4,447 50 | 6,561 00 | 2,127 16 | 4,803 00 | 6,930 16 | 53,554 23 | 19 |
| 7,754 75 | 537 46 | 8,212 50 | 8,749 96 | 590 95 | 9,822 00 | 10,412 95 | 55,381 16 | 20 |
| 2,098 50 | 244 48 | 1,770 50 | 2,014 98 | 71 50 | 2,177 15 | 2,248 65 | 13,742 13 | 21 |
| 674 00 | 155 34 | 73 00 | 223 34 | 414 37 | 85 00 | 499 37 | 2,634 21 | 22 |
| | 28 50 | | 28 50 | 21 00 | 7 00 | 28 00 | 171 50 | 23 |
| 1,077 25 | 487 64 | 312 00 | 799 64 | 487 66 | 377 00 | 864 66 | 9,729 15 | 24 |
| 121 00 | | 72 50 | 72 50 | | 43 00 | 43 00 | 740 00 | 25 |
| 19,699 65 | 3,566 92 | 14,888 00 | 18,454 92 | 3,712 64 | 17,314 15 | 21,026 79 | 135,952 38 | 26 |

COMPARATIVE STATEMENT of Fishing Bounties

| Number. | 1885. | | | 1886. | | | 1887. | | |
|---------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|
| | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | Vessels. | Boats. | Total. |
| | Amount. | Amount. | | Amount. | Amount. | | Amount. | Amount. | |
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| 27 | 626 15 | 4,090 50 | 4,716 65 | 770 44 | 4,149 50 | 4,919 94 | 1,225 78 | 4,396 00 | 5,621 78 |
| 28 | 426 00 | 3,532 50 | 3,978 50 | 967 40 | 3,413 00 | 4,380 40 | 1,127 00 | 3,636 00 | 4,763 00 |
| 29 | 76 00 | 1,433 50 | 1,509 50 | 271 53 | 1,364 00 | 1,635 53 | 734 73 | 1,409 00 | 2,143 73 |
| 30 | 1,128 15 | 9,076 50 | 10,204 65 | 2,009 37 | 8,926 50 | 10,935 87 | 3,087 51 | 9,441 00 | 12,528 51 |
| 31 | | 8,005 00 | 8,005 00 | | 9,294 00 | 9,294 00 | | 8,862 00 | 8,862 00 |
| 32 | 1,524 26 | 14,900 50 | 16,424 76 | 1,176 98 | 15,465 50 | 16,642 48 | 1,233 98 | 15,335 25 | 16,569 23 |
| 33 | | | | | | | | | |
| 34 | 1,988 00 | 5,047 00 | 7,035 00 | 2,227 63 | 5,119 50 | 7,347 13 | 2,354 00 | 4,122 50 | 6,476 50 |
| 35 | | | | | | | | | |
| 36 | 3,512 26 | 27,952 50 | 31,464 76 | 3,404 61 | 29,879 00 | 33,283 61 | 3,587 98 | 28,319 75 | 31,907 73 |

RECAPITU

| | | | | | | | | | |
|----|------------------|-----------|------------|-----------|------------|------------|-----------|------------|------------|
| 37 | 55,252 73 | 48,767 00 | 104,019 73 | 50,295 54 | 48,494 00 | 98,789 54 | 48,407 03 | 51,215 00 | 99,622 03 |
| 38 | 4,226 25 | 11,682 00 | 15,908 25 | 4,976 07 | 12,918 50 | 17,894 57 | 5,512 65 | 14,187 00 | 19,699 65 |
| 39 | 1,128 15 | 9,076 50 | 10,204 65 | 2,009 37 | 8,926 50 | 10,935 87 | 3,087 51 | 9,441 00 | 12,528 51 |
| 40 | 3,512 26 | 27,952 50 | 31,464 76 | 3,404 61 | 29,879 00 | 33,283 61 | 3,587 98 | 28,319 75 | 31,907 73 |
| 41 | 64,119 39 | 97,478 00 | 161,597 39 | 60,685 59 | 100,218 00 | 160,903 59 | 60,595 17 | 103,162 75 | 163,757 92 |
| | Less Refund..... | | 58 00 | | | | | | |
| | | | 161,539 39 | | | | | | |

Paid, from 1882 to 1889 inclusive.

| 1888. | | | 1889. | | | Grand Total. | Number. |
|----------|-----------|-----------|----------|-----------|-----------|--------------|---------|
| Vessels. | Boats. | Total. | Vessels. | Boats. | Total. | | |
| Amount. | Amount. | | Amount. | Amount. | | | |
| \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | | |
| 654 06 | 2,067 00 | 2,721 06 | 1,043 02 | 6,672 00 | 7,715 02 | 37,557 53 | 27 |
| 782 00 | 3,826 50 | 4,608 50 | 651 25 | 4,114 00 | 4,765 25 | 37,530 15 | 28 |
| 180 90 | 1,582 50 | 1,763 40 | 69 26 | 1,445 00 | 1,514 26 | 15,586 94 | 29 |
| 1,616 96 | 7,476 00 | 9,092 96 | 1,763 53 | 12,231 00 | 13,994 53 | 90,674 62 | 30 |
| | 9,891 50 | 9,891 50 | | 10,689 00 | 10,689 00 | 65,041 00 | 31 |
| 1,098 05 | 16,527 50 | 17,625 55 | 856 34 | 16,597 00 | 17,453 34 | 131,925 11 | 32 |
| | 27 50 | 27 50 | | 160 00 | 160 00 | 187 50 | 33 |
| 1,573 20 | 3,741 00 | 5,314 20 | 1,600 87 | 3,459 50 | 5,060 37 | 46,706 64 | 34 |
| | | | | | | 15 00 | 35 |
| 2,671 25 | 30,187 50 | 32,858 95 | 2,457 21 | 30,905 50 | 33,362 71 | 243,875 25 | 36 |

L A T I O N .

| | | | | | | | |
|------------------|------------|------------|-----------|------------|---------------|--------------|----|
| 37,564 90 | 52,221 00 | 89,785 90 | 39,848 51 | 50,294 00 | 90,142 51 | 782,825 02 | 37 |
| 3,566 92 | 14,888 00 | 18,454 92 | 3,712 64 | 17,314 15 | 21,026 79 | 135,952 38 | 38 |
| 1,616 96 | 7,476 00 | 9,092 96 | 1,763 53 | 12,231 00 | 13,994 53 | 90,674 62 | 39 |
| 2,671 25 | 30,187 50 | 32,858 75 | 2,457 21 | 30,905 50 | 33,362 71 | 243,875 25 | 40 |
| 45,420 03 | 104,772 50 | 150,192 53 | 47,781 89 | 110,744 65 | 158,526 54 | 1,253,327 27 | 41 |
| Less Refund..... | | 7 00 | | | Less Refund.. | 63 00 | |
| | | 150,185 53 | | | | 1,253,262 27 | |

APPENDIX No. 3.

SPECIAL REPORT

OF

MR. S. WILMOT,

RELATIVE TO THE

PRESERVATION OF THE WHITEFISH FISHERIES

OF

LAKE WINNIPEG.

OTTAWA, October, 1890.

The Honourable CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—Having received instructions from you to go to Manitoba to examine into the condition of Lake Winnipeg fisheries, covering the grounds mentioned in certain correspondence regarding the alleged depletion of whitefish, and to investigate other matters connected therewith; and having carefully read the numerous files of correspondence, relating to the above subject, which have passed between the Departments of the Interior and of the Fisheries; and also having personally visited some of the most important fishing stations on Lake Winnipeg, mentioned in the aforesaid correspondence, I beg to report, for the information of your Department, the following views which I entertain and the conclusions I have formed on the subject matter under consideration.

Lake Winnipeg lies partly in the two Provinces of Manitoba and Keewatin. It is the largest and most important body of water in these Provinces, with an area of some 9,550 square miles. Its extreme length takes in about 270 miles, and its greatest width is about 70 miles. It runs in a line nearly north and south. The southern half of the lake is very narrow, and largely cut up with small bays and inlets, and filled with numerous islands. The northern or upper half opens out to a width of some 60 miles, and covers nearly three-fourths of the whole area of the lake.

It is supplied by numerous large rivers which flow into it at various points around the whole extent of its shores.

The two principal tributaries on the west side are the Great and Little Saskatchewan Rivers—the former at the north-west end of the lake, the latter about mid-way of its extreme length. The feeders on the east side comprise many large rivers also, which drain an extensive territory. The southern or very narrow part of this lake, which is so largely interspersed with islands, is reported to be very shallow; whilst the upper or northern part, which is comparatively free of islands, is broad and deep. It is navigable throughout its whole extent for steamers and other craft for all ordinary purposes of traffic.

The principal product from Lake Winnipeg is the famous and highly-prized whitefish, *coregonus albus* which, for domestic and commercial purposes, no doubt stands foremost on the list of fresh water fishes in America. These fish have been, and no doubt are yet, quite numerous in Lake Winnipeg, although it is held by many persons, and truly so, that in certain localities a depletion is already felt from the wholesale methods of fishing practised by certain fishing companies, who carry on this industry quite extensively almost wholly for the United States markets.

Much controversy has arisen regarding this alleged excessive fishing in Lake Winnipeg between these fishing companies and leading inhabitants of Manitoba, and also with the settlers and Indian tribes around the lake, which has culminated to such a degree at last as to call for the serious consideration of the Departments of the Fisheries, and of the Interior to investigate this matter from a disinterested and public standpoint, not only with regard to the above issues, but also in the interests of the general public.

It is therefore of vital importance to all concerned that some practical solution should be reached by which, if possible, the fishing industries of Lake Winnipeg should not be speedily impoverished, but should be maintained as a source of wealth, and luxury for the inhabitants generally of Manitoba, both for the present and the future.

There are several separate interests connected with the fisheries of Lake Winnipeg which are dwelt upon somewhat lengthily in the Departmental correspondence

referred to—each claiming that the views held by them are the correct ones, in so far as the question of depletion of the whitefish in the lake is concerned. These different interests may be classed as follows:—

(1.) The Indian tribes under the control of the Department of the Interior claim that, many parts of the lake which formerly supplied them with the requisite abundance of fish-food are now showing depletion by reason of the excessive and wholesale fishing carried on by certain large fishing corporations.

(2.) Prominent officials and leading citizens of Manitoba also represent that Lake Winnipeg is undergoing a falling off in many localities of its former whitefish crop, and that, therefore, means should be instituted to stay this too rapid destruction of fish by judicious regulations, which, whilst protecting the fish, will not too seriously interfere with the fishing industries of the country.

(3.) The fishing companies, who are largely engaged in capturing, and freezing whitefish for export, principally to the United States, from their standpoint claim their catch of fish, when compared with other fisheries in the eastern waters where whitefish are taken, that Lake Winnipeg is not becoming depleted, but, on the contrary, this lake shows evidence of increase rather than decrease.

These contradictory statements require looking into, and due consideration given to them, before suggesting a system by which the different conflicting interests may be possibly and fairly overcome, by the introduction of some just and equitable code of regulations, which, whilst they may not be wholly suitable to the individual contending parties, may nevertheless be such as the Department of Fisheries can adopt with justice to all, and more especially in the interest of the great fishing industries of Lake Winnipeg, which the Government should, no doubt, be most desirous of maintaining.

First.—"The Indians, and the interests of the Department of the Interior."

Voluminous evidence is given in the correspondence showing quite conclusively that the Indians on some of the reserves around Lake Winnipeg are suffering from the want of their former supplies of whitefish, which in past years were obtained readily and in great abundance; and notable instances are related where waters which at one time were teeming with these fish have now become very scarce, and fears are entertained that the usual supplies of fish-food for the Indians will soon be at an end, and that this has been brought about by over-fishing at the mouths of rivers by fish traders, who are permitted to carry on this excessive fishing regardless of consequences. It is also represented that unless this reckless system of fishing be discontinued these Indians, who are the wards of the Government, will have to be supported by other means from the public funds of the country.

These are no doubt pressing facts, and must be so considered from an uninterested and practical comprehension of the state of affairs as they now exist. It is therefore expedient that the Government should meet this subject in the spirit of reciprocity; as between the requirements of the Indian, the settler and the fish trader each have their rights and are entitled to full consideration as inhabitants of the country.

It is in this broad view of the question that it is submitted to the Department, and not in the manner in which some parties desire to represent it, when they say that "the Indians should not be considered, or allowed to kill whitefish, and feed them to their worthless dogs, as formerly;" for it must be understood those dogs are the beasts of burthen for the Indian, and are used as such, and require food to sustain them, in like manner as the horse and the ox are required by the white man, though fed in another way.

Second.—The statements made by prominent individuals and leading inhabitants of Manitoba are, that over-fishing of the whitefish in Lake Winnipeg is being experienced, and is steadily increasing, and that it should be stayed, in the interests both of the present and incoming inhabitants of Manitoba and the North-West, and that the whitefish industry should be studiously husbanded. This advocacy for the preservation of the fishing wealth in Lake Winnipeg by the leading inhabitants of Manitoba should be sustained by the Department of Fisheries, in order to prevent

a repetition of the sad experiences which are now felt in many of the waters in the Eastern Provinces, where over-fishing has brought depletion to such an extent as to be almost wholly beyond recovery.

It is important, when submitting the different points at issue to your Department, and in order to make them more fully comprehended, that some description of the fishing grounds now occupied by the fishing companies, and the methods of fishing now employed in Lake Winnipeg, should be given, and that a plan of the lake should be appended, on which will be shown the position of the several fishing, and freezing establishments where the great commercial catch of whitefish is carried on.

Formerly this industry was pursued in the lower or southern parts of the lake; but the catch becoming much lessened there the fish traders have established themselves about midway up the lake, and at Selkirk Island, at the head of the lake. The principal points for their operations at present are at Beren's Island, Reindeer Island, and at the mouth of the Little Saskatchewan River, about midway of the lake, and at Selkirk Island, near the mouth of the Big Saskatchewan, at the north end. Other places may be only temporarily fished; but the above named localities form the present headquarters of the fishing companies.

At Beren's Island a good natural harbour is formed on the southern side. Here the two principal firms have each extensive ice-houses and freezing-houses, also landing piers for their steam-tugs and barges; similar works, but less extensive, are at Reindeer Island and at Selkirk Island. But the most extensive buildings and works are just at the mouth of the Little Saskatchewan River, where two companies each have large ice-houses, freezers and piers on either side of the mouth of this river, which is only about 100 yards wide.

The present mode of fishing by the companies is with gill-nets, which are fished at certain distances off the shores of these islands, varying from one to six and ten miles, according to the "running" of the whitefish, as it is termed.

This net-fishing commences generally about the beginning of June at Beren's, Reindeer and Selkirk Islands, where large quantities of whitefish are taken; but when the latter end of the month of August is reached these companies stop their operations at these islands, by taking all their movable fishing gear and plant to the Little Saskatchewan, where the whitefish by this time have been congregating in great numbers, preparatory to going up the river and to St. Martin's Lake, which are their specially-adapted natural breeding-grounds. Here, perhaps, about one-third of the whole season's catch is taken by these fishing companies in the narrow confines of the bay, which forms the estuary or outlet of the Little Saskatchewan River.

At this point the greatest destruction is evidently going on, and it is here, and up the river, and in Lake St. Martin's, where the Indians and others contend that depletion of the whitefish crop is most serious and very marked indeed, when compared with former years; and this great falling off is caused by the fact of the whitefish being intercepted by the numerous nets set throughout the bay and are stopped from passing up the river to their natural haunts above and to St. Martin's Lake.

Just at the mouth of this river is a small Indian reserve, where its inhabitants, together with some Indians from other localities meet late in the fishing season. Some of these Indians obtain daily employment, whilst others are furnished with boats and nets by the fishing companies, who buy the fish from the Indians at certain current prices.

Upon arrival of the steamer at the mouth of the Little Saskatchewan River, a council of the Indian chiefs and councillors was being held; about thirty were present. Inspectors McQueen and McColl, of the Fisheries and Indian Departments (who accompanied me on this trip), and myself, were invited to attend this Indian council, and the following expression was given by these Indians on the subject of depletion of whitefish on the Little Saskatchewan and in St. Martin's Lake. The substance of their deliberations at this council was given to me at the time by an intelligent half-breed interpreter, quaintly, as follows:—

"Can't catch enough whitefish for our families up river any more; all caught in mouth of river and in bay by white men traders for freezers. In old time plenty fish go up river and into St. Martin's; could then catch plenty fish for families all along banks of river with small scoop nets, easy, but now can't get fish that way anyhow—fish too scarce. Indians willing to stop fishing short time and let fish lay eggs, but white men must be stopped killing all fish with big nets at mouth of river and bay. Some young Indians want to work for freezer men to get money and spend it; don't know what way; but old Indians, squaws and children get no good, no work, no fish. Indians want big fish traders kept away from mouth river and bay with big steamboat fishing; let trader fish in big water out in lake, where Indian can't go with small canoe. Young men and boy Indian get some good, but old men and families get nothing to make up for great loss of winter food, which came up river very plenty old time before. Not much whitefish caught any time before September; very plenty after that in old time, before white man kill so many ten thousands at mouth of river in September and October. Indians can't get fish plenty any more through ice; got too scarce."

These views were given by this body of Indians in council, without any hesitation or dictation on the part of any one, but with much warmth and frankness, and certainly without any previous knowledge of our presence, as the steamboat which took us there had only just then reached the place.

The methods pursued by the fishing corporations in catching whitefish, freezing and transporting them to market, is coupled with a good deal of risk and considerable expenditure; each company necessarily employs one or more steam tugs, which are used for transporting their material and other requisites for their fishing operations to and from their headquarters at Selkirk, a town on the Red River some twenty miles north of Winnipeg city. These tugs are principally used for towing large barges laden with fish, frozen and otherwise cured, down to Selkirk. The barges are really immense floating freezers, in which fish are not only frozen by the usual process, but are also the receptacles to store away in their ice chambers the cases of fish which have been frozen in the shore establishments. When heavily laden they require strong steam power to tow them, and considerable risk is experienced in their transport up and down the lake. Two of these tugs and barges were cast on shore by the violence of the weather at the time of my going up the lake.

The nets used by these fishing companies are also extensive and expensive, as they require frequent renewing from time to time during the fishing season, on account of the rotting of the twine by the action of the milky-coloured sedimentary matter appearing everywhere, and caused by the disturbance of the clayey-bottomed parts of the lake by prevailing winds.

These nets are called gill nets. One boat's complement for fishing may be 600 to 750 fathoms in length, comprised of 12 or 15 gangs of 50 fathoms each. The size of mesh required by the regulations is 5 inches, extension measure. The fishermen, however, find it to their advantage to use $5\frac{1}{2}$ inch meshes. The usual gill net is made 16 meshes wide, or about $5\frac{1}{2}$ feet deep when set. Some fishermen use 24-meshed nets, thus increasing the depth of their nets to 8 feet. This size of net appears to be optional with the fishermen. The nets are set in long, straight lines on the bottom of the lake; they are balanced with corks and leads, so that when they rest on the bottom; they stretch upwards their whole width by the floating power of the corks, which are just sufficient to keep the net distended without lifting it from the bottom of the lake. The whitefish on their feeding grounds in the open lake, or on their migration to the bays, rivers and other spawning grounds, come in contact with these nets, and in their efforts to pass through them become entangled and are caught in the open meshes by their gills, and sometimes by other parts of their bodies.

If severe storms prevail, which is very often the case in the open lakes, these nets cannot in many cases be lifted until the winds subside, which may not be for several days, in which case the fish in the meantime die, partial decomposition sets in, and

they become unfit for use, and the whole catch, sometimes amounting to many thousands, are thrown away. Great destruction is caused in this way, and a question has arisen whether it would not be better to do away with the gill net and substitute the pound or trap net under certain regulations, as the pound net would not only save the fish which are lost by the gill nets, but would also raise the standard of the whitefish generally in the markets of the country; whereas it is now somewhat lowered by the many fish which are offered for sale that are unwholesome for food, by reason of the blemished fish whose injuries and defects are hidden by the freezing process. The pound net would no doubt be very acceptable to the fishing companies generally, not only to obviate the difficulties above mentioned, but on account of being less expensive in their general working.

The quantity of gill nets set in Lake Winnipeg in 1889 covered about 60 miles in length. These gill nets, though apparently small, and averaging but 6 feet in depth, are nevertheless from their many miles of length where set, very deadly engines, and capable of causing great havoc in circumscribed limits, such as small bays and rivers. As an evidence of this it may be stated here that in Lake Winnipeg, where only three fishing companies are carrying on the fishing trade, the quantity of whitefish reported to be shipped by one firm alone in 1889 amounted to 9,000 boxes of 130 lbs. each, making 1,170,000 lbs., the other two companies making up a similar amount, thus showing that this small number of traders are capable, with the present improved methods of fishing, of capturing upwards of two and a-quarter millions of pounds of whitefish in Lake Winnipeg during one short season alone, the greater portion of which passed directly out of the Province, causing the home consumption of Manitoba and other parts of the country to be only sparsely supplied, and at high prices.

Now, while about two-thirds of this large catch of whitefish were captured fairly in the open waters of Lake Winnipeg at the proper season of the year, the other third were said to be taken in the narrow limits of the bay at the mouth of the Little Saskatchewan River, where it appears the whitefish collect in great numbers in September and October, preparatory to their going up this river and to St. Martin's Lake for breeding purposes.

This taking of upwards of two and a-quarter millions of pounds of whitefish by these fishing companies in Lake Winnipeg, more particularly that portion of the catch taken at the mouth of the Little Saskatchewan River, must, in the common sense reasoning of things, go to show that, the originally intended balance of nature regarding these fish is being largely interfered with, and to such an extent if continued, as to cause well grounded alarm for a rapid decline of the whitefish industries connected with Lake Winnipeg, and many of the tributary waters belonging to it. And it must be understood, also, that the above, described quantities of whitefish only include those taken by these three fishing companies operating in Beren's, Reindeer and Selkirk Islands, and at the Little Saskatchewan River, irrespective altogether of the supplies that are caught by all other fishermen, Indians and settlers in other parts of the lake during the whole fishing season of the year.

It cannot therefore be otherwise than reasonably concluded that some better and wiser regulations for the preservation and future maintenance of the whitefish industry in Lake Winnipeg, and other waters connected with it, than those at present in force should be established and efficiently enforced, the result of which would undoubtedly benefit all concerned. The fishing companies could then rely with greater certainty in the belief that the capital invested by them in the fish trade would not be improvidently spent upon a too rapid depletion of the fish products of Lake Winnipeg, but that the traffic would assuredly be more lasting and remunerative in the long run. The Indian tribes could place reliance upon a lengthened continuance of supplies of whitefish which has hitherto been found to be the principal food upon which they largely subsisted; and the settlers and inhabitants of Manitoba, generally, would be enabled to retain within the limits of their own province a lasting store of valuable fish-food, both for the present time and the future; and the

Government of the Dominion would be credited for husbanding a wholesome and luxurious source of fish-wealth, which Providence had so wisely provided for its inhabitants.

Having considered the leading points at issue, which are referred to in the correspondence, the following suggestions are offered as remedial measures, by which a fair and equitable solution of the difficulties may be come to, as regards the better preservation of the whitefish industries connected with Lake Winnipeg—:

A tracing of the lake is appended, on which will be shown the boundaries beyond which the more extensive, or commercial, fishing by companies and traders should not be carried on; which gives to them the most extensive area of the lake for their operations, and shuts them out from only one locality which they at present enjoy, and in which it would be manifestly unwise to allow them to exercise their calling hereafter, by reason of the large amount of capital, with fishing gear, boats, nets and other plant, which these companies bring to bear in the prosecution of their work within such narrowly-confined limits as the bay at the outlet of the Little Saskatchewan River.

This bay is the key to the extensive whitefish breeding grounds in the Little Saskatchewan River and St. Martin's Lake, which is about 30 miles up the river. It is therefore self-evident that this bay should be guarded against over-fishing—in fact, if the maintenance of the whitefish industry in a large section of the western shore of Lake Winnipeg is to be considered of any importance, commercial fishing of any description should be wholly excluded from this bay.

It will be seen by a reference to the plan of the lake that at Beren's Island, Reindeer Island and Selkirk Island, and at the Little Saskatchewan River, the fishing companies have permanent establishments, marked thus \times , consisting of ice-houses, freezing-houses, and landing-piers. Therefore, in any regulations that may be found advisable to adopt for the future, as suggested herein, these establishments will not be interfered with, unless with those at the Little Saskatchewan River, where the present system for catching whitefish in the bay and mouth of this river should not be allowed. But as a depot for storing and freezing fish, these establishments at the Little Saskatchewan River would in no wise be interfered with. This restriction against commercial fishing at the mouth and bay of the Little Saskatchewan would only affect in some degree the fishing companies of Gauthier & Co., and Robinson & Co., who have similar establishments for curing and freezing fish at Beren's Island and elsewhere on the lake.

The plan proposed is to exclude the granting of licenses for commercial fishing—that is, fishing by the modes and system now adopted by the present fishing companies—from certain well-defined limits, where it is known that the whitefish collect together preparatory to, and at, the time of spawning. These excluded waters against the above mentioned "commercial fishing" should be as follows: All the waters of Lake Winnipeg south of a line running from a point laid down in the map on the western shore of the lake, called "Dancing Point," to Cat Point, on Lynx Island, and thence across the lake to Pigeon Point.

All the waters of Lake Winnipeg east of certain lines, commencing at Pigeon Point and running across to the extreme north-eastern point of Berens Island, thence across again to Mossey Point, and from Big Stone Point to George's Island, and thence northward to a point three miles above the mouth of Big Black River, and from Montreal Point, at the entrance to Playgreen Lake, on a line running due west into Winnipeg Lake five miles, and from thence running due north to the Peninsula forming Mossey Point; and the waters of, and connected with, the Great and Little Playgreen Lakes. The waters on the north end of Lake Winnipeg, namely: Limestone Bay and its outlet south to Eagle Island; all the waters on the western shore from the north end to the south end of Selkirk Island, and from thence southward to a projecting point on the mainland of Long Point, as shown on the plan, and including Cedar Lake and Cross Lake, and the waters connecting them with Lake Winnipeg, together with the waters of all rivers, and the mouths thereof, emptying into the above-described excluded parts of Lake Winnipeg, and including St. Martin's Lake also.

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That the "Commercial Fishing License" to be granted to any fishing company or other person shall limit the number of fishing boats to be used, the length, width and size of mesh of each net to be fished, and the number of boats and nets under each license shall be limited to a maximum number therein mentioned.

That a license, to be called a "Domestic License," be granted to Indians and settlers to carry on fishing for home use, and not for export traffic; one net only allowed to such applicants, the length of such net not to exceed a maximum therein mentioned.

That the present close season for whitefish in Lake Winnipeg, from 5th October to 30th November, inclusive, be continued and enforced against all persons.

The following questions relating to the whitefish fisheries in Lake Winnipeg being submitted for my consideration are herewith answered *seriatim* :—

(1.) "Whether there really exists a depletion of whitefish in the waters of Lake Winnipeg?"

There is a gradual but steady depletion of the whitefish product of Lake Winnipeg going on, from the effects of the present system of fishing in certain parts of the lake.

(2.) "If so, in what waters, and what are the causes of it?"

The depletion is experienced more particularly at the mouths of the larger rivers, and in the lower parts of the lake, particularly in the Little Saskatchewan River and St. Martin's Lake, caused by over-fishing at improper times, notably at the mouth and bay of the Little Saskatchewan River. This cause, if permitted to be continued here, and to be allowed in other places similarly situated in other parts of the lake, must assuredly hasten rapid depletion and eventually termination of the whitefish industry of Lake Winnipeg.

(3.) "What are the remedies?"

The remedies are to reasonably restrict the wholesale fishing now carried on by the fishing companies by judicious regulations, and to wholly prevent these companies, and others, from fishing in certain well known localities, where the whitefish congregate in great numbers prior to the close season and preparatory to their breeding time.

(4.) "Is the present close season proper or sufficiently long for the efficient protection of whitefish, and if not, what dates would you recommend?"

The present close season (5th October to 30th November) is well chosen, and should answer all purposes, if duly enforced.

(5.) "Should the permission granted Indians of fishing indiscriminately during the close season be continued?"

It would be better for the general interests of the Lake Winnipeg fisheries that the Indians should not be permitted to fish indiscriminately during the "close season;" however, public policy, it appears, prevents this being carried out.

(6.) "Should the killing of whitefish during the close season, for the purposes of feeding dogs, be tolerated; and, if so, under what circumstances?"

This is a necessary sequence to the former question. The dog is the Indian's provider, and his "beast of burthen," so to speak; and food is a necessity for the dog as well as the Indian. If the Indian is permitted to take whitefish for his own purposes during the close season the dog cannot be excepted, and it would be found almost impossible to procure accurate data to show the quantity of whitefish required for feeding dogs.

(7.) "Should any, and which waters, be reserved for the exclusive use of "Indians?"

Yes. Where there are no white settlers actually domiciled, and carrying on agricultural or other fairly legitimate callings, the Indians should have the exclusive right of fishing in their reserves, and in all other waters which it may be considered expedient to set apart for them. Fish traders or other persons should not be allowed to fish in these waters under any pretence whatever.

(8.) "Should net fishing be 'curtailed,' and to what extent?"

Net fishing should be limited in the licenses granted to "Fishing Companies," and all others who carry on "Commercial Fishing"—that is, as now known by the methods of freezing and curing for export purposes. Each license for this description of fishing should state a maximum limit for the number of boats, and length and description of net to be used; and "Domestic Licenses," that is for the actual, and *bona fide* settler, or Indian, should also be limited to one boat and a maximum length of net each.

(9.) "Is the present 'close season' for sturgeon sufficiently long to ensure full protection to these fish?"

The close season for sturgeon, should be from what is at present known of its habits, from 15th April to 15th July. The license to fish sturgeon should describe the location where to fish, the description, length and size of mesh of the net, and the description of boat to be used.

(10.) "Would it be desirable that Indians be supplied with large boats and longer nets, so as to enable them to fish in the deep parts of Lake Winnipeg, instead of on the shoals only, as at present?"

It would be undesirable that Indians should be supplied with large boats and longer nets in order to fish in open or deeper parts of the lake. If the Indians desire to fish in waters outside their reserves, or other waters set apart for them, they place themselves in competition with other fishermen, and should therefore make their own provision for such outside fishing.

CONCLUSION.

There are, no doubt, many minor details which may be gone into in the future for practically carrying out the suggestions which have been offered to your Department, should they be considered worthy of adoption. The varied and complicated issues which are embodied in the correspondence make the solution of them extremely difficult to overcome, or to be placed under a standard of regulations, without in some manner affecting the interests of one or the other of the parties concerned.

But after mature consideration of the general subject I see no other way by which the true interests of the whitefish industries of Lake Winnipeg can be so well conserved as by the adoption of the recommendations which I have embodied in this report, believing that they will render the greatest amount of good to the greatest number of inhabitants of Manitoba and the country generally.

Whilst consideration has been given herein regarding the importance of preserving the whitefish fisheries of Lake Winnipeg, it is of equal, if not of greater importance, that similar protection should be at once extended to the waters of Lakes Winnipegosis, Manitoba, and all other lakes in the North-West. Their smaller and narrower areas, and numerous little bays and inlets offer greater facilities for a more speedy termination of the whitefish industries connected with them than with Lake Winnipeg; and if the improvident system of commercial fishing practised by fishing and trading corporations be allowed to prevail, as at present, the whitefish wealth of the lakes of the North-West will soon become exhausted.

Respectfully submitted.

SAMUEL WILMOT.

APPENDIX No. 4.

SPECIAL REPORT

BY

MR. S. WILMOT

ON THE

SALMON FISHERY

AND

FISHERY REGULATIONS

OF

FRASER RIVER, B. C.

1. The Canning Industry.
 2. The Fishery Regulations.
 3. Supplementary.
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OTTAWA, November, 1890.

The Honourable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—In accordance with your instructions in August last I visited the Fraser River in British Columbia to investigate certain matters relating to the fishery regulations as applied to the taking of salmon by the several fishing companies engaged in the canning industry.

On my arrival at New Westminster I obtained copies of the regulations in force at that time, and then proceeded to visit a number of the principal canning establishments along the river, in order that I might form a somewhat practical knowledge of the operations connected with the salmon canning industries of the Fraser River.

Many of the canning factories are very extensive establishments, both as regards the size of the buildings, their general equipments and their adaptability for the work for which they are intended. The method employed is very similar in each, only differing somewhat as regards the more systematic application of machinery and work, and the greater capacity which some of the institutions have over others.

There are seventeen of these factories for canning salmon on the tidal and estuary parts of the Fraser River. They are all located between a point a short distance above New Westminster and the outlet of the Fraser into the Strait of Georgia, taking in about twenty-five miles of the river.

Within this limit the extraordinary quantities of salmon that were being caught during my stay there would be quite beyond the conception of any one, unless he had been an eye-witness of the prodigious numbers that were delivered at and passed through these canneries daily.

During one day alone it was computed that, some 150,000 salmon were delivered at these factories, all of which passed through the various stages of cleaning, cooking, canning, and packing ready for shipment the same day for the markets of America, Europe, Australia, and other countries.

This enormous fishing business goes on daily, until the great run of "Saw-kay" or suck-eye salmon ends. These salmon generally enter the Fraser River about the middle or latter part of July, and continue till about the end of August, when they became unfit to can, and those that may have escaped the nets in the lower waters may be seen passing up the Fraser and its tributaries to their spawning grounds in very great numbers.

There are several kinds of the salmon family that enter the Fraser River, but the so-called Suckeye "*Oncorhynchus Nerka*" is by far the most numerous, and forms the great commercial catch which the canning companies operate so largely with for export purposes.

The Quinnet or spring salmon "*Oncorhynchus Chouica*," are an earlier run of fish which enter the Fraser: They are much larger, reaching 20, 30 and 50 pounds in weight; their numbers, compared with the "Saw-kay," are very small indeed, and therefore of less commercial importance to the canning companies. The Saw-kay's superiority for traffic consists in the great number that can be readily obtained for extensive export trade, and the high blood-red colour of their flesh, which is retained in the canning process, giving them a preference on this account in the markets of Europe and elsewhere.

As previously stated, the "Saw-kay" salmon enter the Fraser in July. They are principally caught with drift nets. The regulation length of these nets is 150

fathoms, and size of mesh $5\frac{1}{2}$ inches extension measure. These nets are cast from the fishermen's boats and allowed to drift with the tide on the surface, being kept in place by the usual cork and lead system. The salmon passing up come in contact with these nets and get "gilled." The fishing boats, which are limited in number on this river to 500, are seen dotted all along the river. By far the greater amount of fishing is carried on near the outlet of the river into the straits, where the fishermen seem most anxious to set their nets, for the first chance in meeting the incoming fish from the sea. It is not unusual for a single boat, in one drift of a net of a quarter of a mile, to fill the boat with several hundred salmon. These are immediately taken to the company's factory where the boat is owned or the fisherman is employed, and thrown upon the landing platform. On these platforms at one end of the factory will be seen a mass of salmon numbering 8,000 and 10,000, which have been brought in by the fishermen's boats during the previous night and early morning.

These salmon, whatever their numbers may be, are all passed through the several stages of the cleaning, cooking and canning process during that same day, so that there shall be no overlapping of one day's catch upon another. This expedition is absolutely necessary, as the fish must be put up in the most perfect fresh condition; consequently, the number of persons employed at these factories is very large, ranging in the neighbourhood of 200 to 300, depending upon the capacity of the cannery and the number of boats employed in fishing for it. Indians and Chinese are almost wholly employed in these factories.

To the ordinary observer the work of curing these great masses of salmon appears most interesting and instructive. The expeditious and systematic manner in which it is done is wonderful; but he is struck with astonishment with the wholesale and wanton waste that is going on in throwing away as offal such a vast quantity of rich, wholesome fish, food, which ought and might be made use of profitably for human food, or other useful purposes. A brief description of this wanton waste of fish is here given.

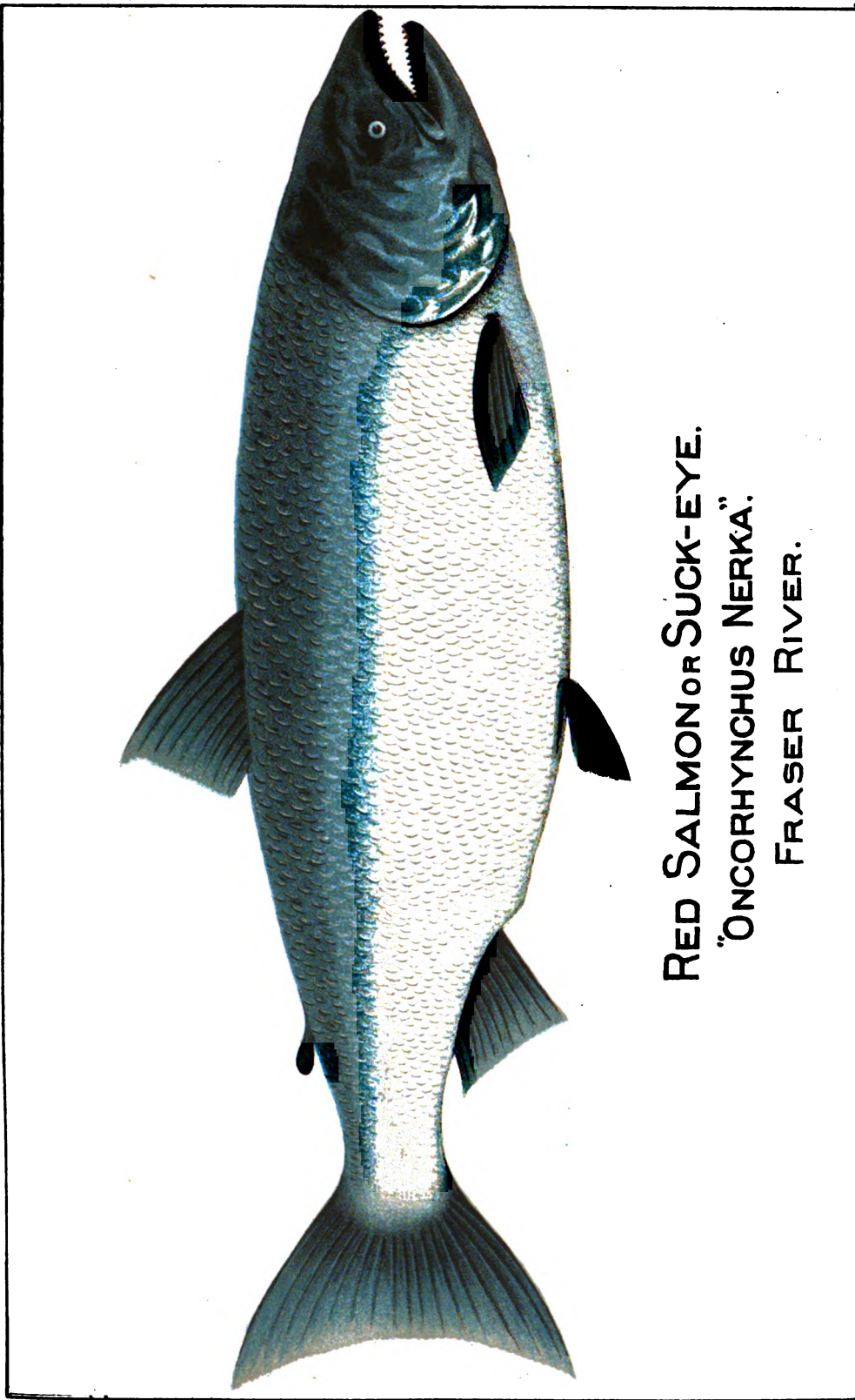
From the great mass of salmon on the platform just described the fish are thrown up singly upon the end of a long, narrow table, on either side of which the workmen stand. One, with a large knife, at one cut severs the head, shoulders and pectoral fins from the body. The next man grasps the fish by the tail and makes a small cut across (thus |) into which his thumb will penetrate a little to hold the fish from slipping from his hand; then with a large knife in his other hand he slices off with one cut the dorsal or back fin; with another stroke the two ventral or belly fins are slashed off. In both operations a goodly slice of flesh goes with the fins. The tail is then cut off near the vent. The body is then passed along to another operator, who opens the belly and takes out the entrails; and on it goes through the hands of many operatives till cooked and canned. Coming back to the waste—the head, shoulders, tail-cut, fins and entrails, making nearly one-third of the whole salmon, is shoved off the table into an open hopper-hole, all falling into the river underneath as offal. The following illustrations are given to show the waste in cutting up the fish.

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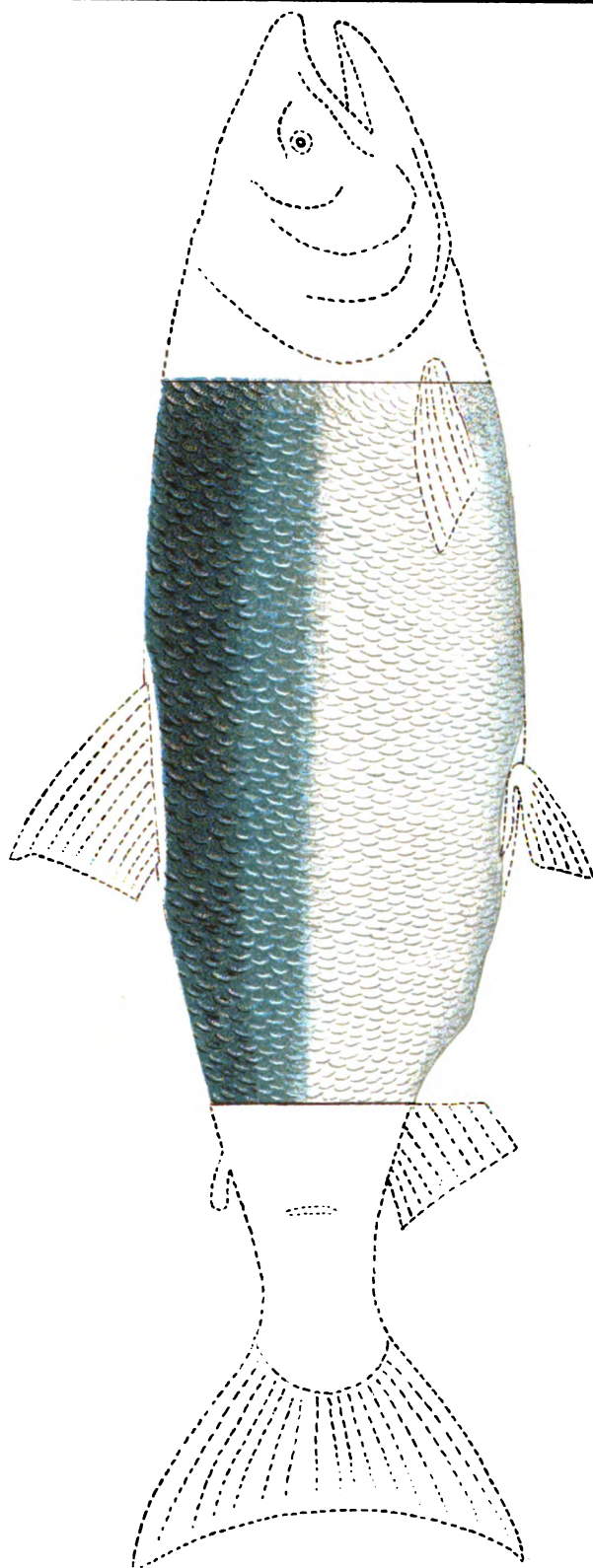
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RED SALMON OR SUCK-EYE.
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FRASER RIVER.

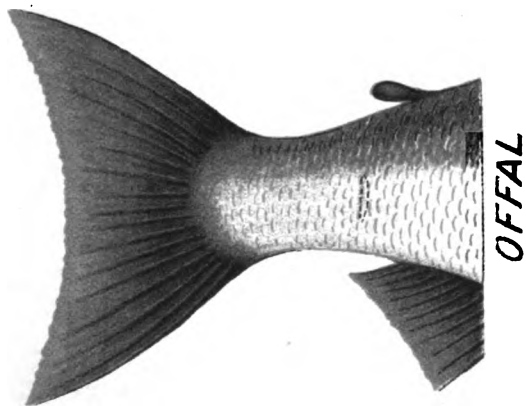
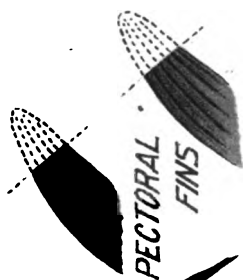
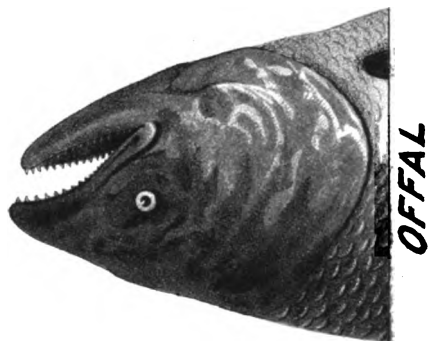
MORTIMER & CO. LITH. OTTAWA, ONT.





BODY FOR CANNING.
WITH HEAD AND SHOULDERS, TAIL AND ALL FINS
CUT OFF AS OFFAL.





OFFAL AS CAST AWAY.



The usual weight of the general run of "Saw-kay" salmon in the Fraser River will average between 7 and 8 pounds. If the fish are very plentiful in the river the canneries give a little more latitude to the *slashers* who cut off the heads, tails and fins, which they take advantage of by being more generous in the size of the parts they cut off as waste, as it is much easier to do so. In this case an average 8 pound salmon will make from four to four and a-half 1 pound cans for market. If, on the other hand, the fish are not so plentiful, less curtailing of the body of the salmon is done, and four and a-half or five cans may be got from the same sized fish. Thus, nearly one-third of the whole salmon is actually thrown away to rot and pollute the river.

The question arises, why should such a sacrifice of fish-food be allowed, to gratify the avarice of the packers and the fastidious taste of the wealthier class of consumers? Why not compel the canner to arrange his business so that this wanton waste of fish shall be largely diminished; or induce him to put up two classes of goods, equally suitable to the wants and means of the richer and poorer classes of consumers; or, if this should be incompatible with the trade, why not convert this vast quantity of fish matter, now thrown away as offal, into usefulness of some kind, in the way of oil, or fertilizers of some description?

THE FISHERY REGULATIONS.

In passing up and down the Fraser River and in visiting several of the canning factories opportunity was afforded for obtaining information from some of the proprietors of these establishments, and from others as well, regarding the working of the present fishery regulations. I had in my possession then only a copy of the Order in Council of 14th March, 1890. I had not then seen or read the lengthy correspondence which had passed between the Fisheries Department and the proprietors of the canneries on the river; this correspondence was on file in Ottawa. When leaving Ottawa for Manitoba on Lake Winnipeg matters, the trip to British Columbia was not contemplated, otherwise the correspondence relating to the Fraser River fishery regulations would have been closely looked into before leaving. Since my return, however, I have looked over the file 5049—89, in which the views of your Department and of the canners are fully discussed *pro* and *con*. With the information obtained by reading the correspondence referred to, and from the practical knowledge obtained by a personal inspection of the principal canning establishments on the river, and by conversations had with some of the leading proprietors of factories on the Fraser River, I feel myself better prepared to offer my views and conclusions regarding the working of the present fishery regulations, as applied to the Fraser River salmon fisheries in British Columbia.

I may here, at the beginning, state that I learned from the general expression given by all parties that no serious objections were raised to the working of the present regulations. It will, nevertheless, be understood that, with an industry so extensively carried on as the salmon canning business is on the Fraser it would be extraordinary indeed not to find some grumbling, especially amongst the more selfish and grasping persons engaged in the trade; but from every source, and upon general principles as regards the maintenance of the salmon wealth of the Fraser River, it was universally admitted that this great natural product of the waters should be more carefully husbanded than hitherto, and that it was the bounden duty of the Fishery Department to surround the industry with such judicious regulations as would prevent this extravagant and improvident fishing, with the view to maintain the source of wealth for the present and the future, which the river is so bountifully supplied with, for the commercial and domestic benefits and comforts of its inhabitants.

LIMITATION OF BOATS.

Whilst this somewhat quiet and satisfactory disposition was shown regarding the present regulations, it does not follow that this will be continuous in following years. The present season, and that of 1889, have given enormous catches of salmon,

in fact quite unprecedented in the Fraser River, and the canning companies have been enabled to procure full supplies of fish for their factories with the present limitation of boats allowed them (namely, in the gross number 350), without any difficulty. In fact, these cannerys could have largely increased their individual pack of canned salmon if they had made the necessary preparations to do so. The fish were there, but it was useless to take more than they could handle daily, or that they had made provision for in their establishments. Thus, it would appear that this more than ordinary contentment prevailed regarding the present regulations in the number of boats allotted to them. Should the crop of salmon in the river prove to be considerably less in following years the demand would be (as has been asked for) that the number of boats should be increased, in order that with a decrease in fish, and an increase in boats the probabilities would be that the full supply of salmon to fill their factories would be secured:—

This gives evidence of the wisdom of the regulation as now laid down for a maximum limit in the number of boats to be licensed, because it has been found that, during the past two seasons, this limit of boats has been quite, if not more, than sufficient to supply all the canneries with all the salmon their factories could well accommodate. If the number of boats were to be increased because the number of salmon were less in any one year, it would simply mean that the Department would be aiding the avaricious fisherman to destroy in a greater degree the reduced stock of salmon entering the river; whilst, if the desire is to husband this industry, the true plan would be to reduce the number of boats for the season in which there might be a reduced run of fish in the river. Hence, it must be concluded that this fixed limit of boats of 350 for the canneries (which no doubt, is all the river can reasonably bear) should be fixed, and not be made changeable from year to year to suit the demands of the canning companies.

This view of the matter is equally applicable to the remaining 150 licenses which, by the "regulations," are to be granted to the "proprietors of freezers on the river, and to fishermen."

LICENSE FEES.

Regarding the discrimination of the license fee in favour of the freezers and fishermen against the cannerys, the latter feel dissatisfied. The fees under the regulations are \$20 for the cannerys up to a limit of twenty licenses each, with \$5 for freezers and fishermen, and \$2 to actual settlers or farmers who fish only for their own use, not for sale or barter. Whilst this reduced fee for the settler or farmer is no doubt correct, why should not the proprietors of freezers, and fishermen, be placed on the same list with regard to license fees as the cannery? They are each, so to speak, professionally engaged in catching salmon for traffic—the cannery and the freezer for commerce and export; the fisherman for sale and barter to the cannery, the freezer, or the community generally, at his pleasure. If, then, the freezer, or the trading fisherman, becomes a competitor with the cannery in the traffic of the salmon caught by them, why should they not pay the same license fee, namely, \$20, for this privilege? The reduced fee of \$2 for licenses to the actual settler or farmer is no doubt correct, because he is only permitted by this privilege to catch salmon for his own domestic purposes, but not to sell or trade them as a business. It gives to the settler on the river the opportunity of getting a fair share of the fish passing him for his own consumption, which may not exceed one or two hundred salmon, which, under ordinary circumstances, might be taken in the course of a few days fishing. In this way he is encouraged by the regulations in being able to get his own family wants supplied; yet he is restricted from going into the business of fishing for "sale or barter," which would draw him from the actual duties of his proper vocation of tilling the soil.

This is not the case with the trading or actual fisherman, who, as a rule, follows fishing as a regular calling, and spends the whole season capturing salmon, and selling them to the canneries, or to the freezers, or to the inhabitants generally. In many instances these fishermen are not actual settlers, but transients, persons of

all nationalities—coming in many cases, from places far away from the fishing grounds on the Fraser River, in order to pursue their calling in killing, trading and generally dealing in fish, for which privileges they only pay a license fee of \$5, as against the farmer's fee of \$2, who is not allowed to trade, sell or make money out of the fish he catches; and also against the canner, who pays a fee of \$20 and upwards and spends thousands of dollars in the erection of factories, and employs hundreds of workmen in carrying on the fishing industry of the country.

As it is, no doubt many of these trading fishermen take out their licenses at \$5, and transfer them with their boats, fish, &c., over to a canner, who by this means gets the advantage of the Department in buying up, say ten of these fishermen and their licenses, costing him \$50, whereas if the license fee to the actual fisherman was (as it should be) \$20, and the canner felt disposed to increase his "pack" by buying out these men, the Department could, under the circumstances, get \$200 from these licenses, whereas now they only get \$50 by this evidently unfair discrimination in favour of the trading fishermen.

WEEKLY CLOSE TIME.

The weekly close time established by Order in Council, 14th March, 1890, was that "Fishing for salmon shall be discontinued from 6 o'clock p.m. on Saturday to 6 o'clock a.m. on the following Monday." This it appears was changed by instructions from the Department to read as follows:—

"Fishing for salmon shall be discontinued from 6 o'clock a.m. on Saturday to 6 o'clock p.m. on the following Sunday."

This latter "close time" is undoubtedly nearer the proper one. It gives free passage of salmon up river during the whole of Saturday and Sunday, and gives opportunity for fishermen, workmen and others to keep Sunday as a day of rest. When fishing was permitted on Sunday it became a necessity that the Sabbath should be broken in order to put up the Saturday's catch, which, if left over for Monday, would become injured to such a degree as to be unfit for canning. As there is no Order in Council for this change, it is suggested that one should be passed repealing the close time now appearing in the printed regulations, and substituting the one acted upon during the past season. But if the Sabbath is to be kept the close time should cover the whole of Sunday—thus—from 6 a.m. on Saturday till 12 p.m. on Sunday.

DESCRIPTION OF NETS.

By the Regulation of 14th March, 1890, which is the latest, no special description of nets is laid down for capturing salmon on the Fraser River, or in the Province of British Columbia. Drift nets are, however, incidentally mentioned in the Order in Council, with reference to how and where they shall be used. Nothing else is said in relation to any other description of net. Other nets than drift nets are said to be used for taking salmon in some of the rivers, and other waters of British Columbia. It was reported that 10,000 salmon were taken with a seine at one haul in one of the rivers further up on the coast. The use of seines for catching salmon should be forbidden in British Columbia, as they are in almost every other country when the preservation of this fish is considered to be of importance. A seine may be cast across the whole width of a river, and sweep in every fish within the limit of its draft, leaving little, if any chance for salmon to escape. Not so with the drift net, for in working it floats on the surface along with the tide; it is narrow in depth, and many salmon therefore escape this drift net, either by going round it, or getting under it. The seine sweeps from top to bottom of the river in drawing, and surrounds the fish and encloses them like the deadly purse seine. The fish once within its circle can have small chance for escape. The drift net only should be allowed for taking salmon in the waters of British Columbia; its maximum length and depth, and its minimum size of mesh, should be established by the Department and strictly enforced.

ANNUAL CLOSE TIME.

British Columbia is the only Province of the Dominion where no annual "close time" is provided for the protection of salmon during their spawning time. This appears extraordinary indeed that the salmon, which is the principal source of commercial wealth in the rivers of British Columbia, should be allowed to be killed during their breeding season. Not only are there laws for protecting salmon at their spawning time in all other Provinces of the Dominion, but similar laws are found to be in existence in all civilised countries in the world, in the waters of which salmon are found to be indigenous. This absence of a "close season" for salmon in British Columbia is truly paradoxical, and calls forth from the Department energetic action for establishing a proper close time for the protection of this valuable fish at its breeding season, and for some short time also during their migration up river.

OFFAL OF FISH.

Nothing whatever is said in the Regulations of the 14th March, 1890, with regard to the prevention of fish offal being cast into any of the waters of British Columbia. This restriction, it is presumed, was considered unnecessary to be inserted in that Order in Council, as a clause referring to it is embodied in the general Fisheries Act of 1886—where a penalty is imposed against any person who causes to be thrown, or deposits in any water where fishing is carried on, "remains, or offal of fish."

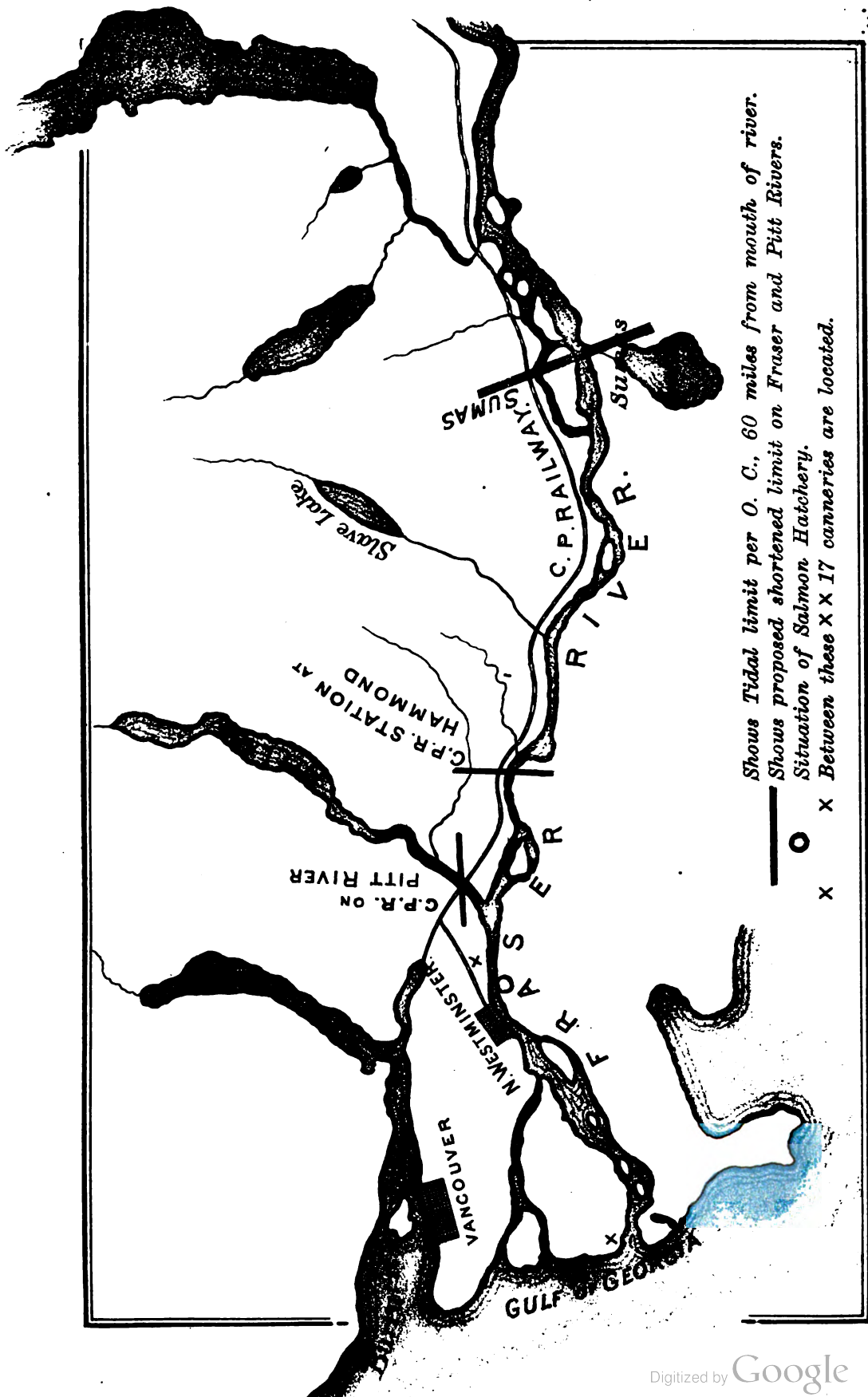
This restriction appears very clear; yet it is held by some fishermen, who persist in casting all their fish offal into the rivers, that because no provision is made in the Fishery Regulations relating to British Columbia waters they are not violating any law in doing so.

The forbidding of throwing the remains or offal of fish or any other deleterious matter into waters frequented by fish is not only the law of Canada, but of almost every other country; but, notwithstanding this wise provision in the Fisheries Act of Canada, fish offal is cast into the Fraser River from all the canning factories in the most wholesale and indiscriminate manner. It is needless to dwell here upon the pernicious effects which must result from this evil practice if allowed to be continued. The strongest evidence of this view of the matter is the stringent legislation in Britain and other European countries against the pollution of their waters from this cause.

In order to form an estimate of the magnitude of the quantity of offal and waste parts of the salmon which are cast into the Fraser River from these canning establishments alone in one season, it may be here stated that the returns of 1889 show 14,789,856 1-pound cans put up by these canneries. Allowing five cans (an over allowance) for each fish, it would represent of the "Saw-kay" species 2,957,971 salmon, which, at the usual average of 8 pounds each, would give a gross weight of 23,663,768 pounds. The amount from this put up in pound cans was 14,789,856, leaving 8,873,912 pounds, or 4,436 tons of fish and offal, all of which was cast into the river to decay and pollute the water. Of this mass of fish matter thrown away, fully one-fourth, or upwards of 1,000 tons, or 2,219,900 pounds of good, wholesome fish-food, quite equal to that which is canned, was wantonly destroyed and lost for human wants. To show this loss in another way, there was an equivalent in numbers to (not including the real offal, actually unfit for food) 277,489 of the above described salmon taken in 1889 allowed to go to waste and pollute the river.

LIMIT OF TIDAL FISHING.

The limit of the Fraser River set aside for net fishing by Order in Council, 25th July, 1889, covers too great a length of the river; it extends as far up as Sumas



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River, which is about sixty miles from the mouth. A shorter limit made at the present time would prevent the erection of canneries hereafter on the narrow and more confined parts of the river, and also give greater freedom for the passage of fish to their breeding grounds. At present there is nothing to prevent a person putting up a canning factory anywhere on the river up to Sumas River. This would be ruinous to the salmon industry, for after the fish shall have passed the gauntlet and escaped the numerous nets within twenty-five miles of the mouth, a factory or more some forty or sixty miles further up, with their twenty boats each and upwards, would almost annihilate the balance of the salmon in the river. To obviate such a calamity to the river, which undoubtedly must take place as the demand for canned fish becomes greater, and the avarice of the fisherman increases in the same ratio to catch them, the tidal limit should be very much shortened, say to the end at Hammond, on the Fraser, and the Canadian Pacific Railway crossing on Pitt River, two unmistakable boundaries. (See map.)

At the present time a factory for canning salmon could be built anywhere on the river, up to Sumas River (sixty miles), without obtaining authority or consent from the Department. To check this, the canners in future should be compelled to take out a "Factory License," which shall give the location of the factory, as well as the number of boats to be used. In this way the factories would come under the jurisdiction of the Department with regard to their location, etc. Certainly no new factories should be permitted to be built at or above New Westminster in the interest of the fisheries, as well as from a sanitary point of view for that city.

SUMMARY.

The following is a summary of the views put forth in this report regarding fishery regulations for the Fraser River, B.C.

(See Order in Council, 14th March, 1890.)

SECTION 1.

Clause 1. Fishing allowed only under licenses, and Providing for Indians, etc.—Satisfactory.

Clause 2. Meshes of nets to be $5\frac{1}{2}$ inches extension measure, etc.—Satisfactory, if fraud is not practiced, and by which the mesh becomes much lessened by wet or otherwise. A $5\frac{1}{2}$ mesh, when dry will be reduced to $5\frac{1}{8}$ when wet. To properly establish a $5\frac{1}{2}$ mesh when fishing, it should be $5\frac{7}{8}$ when dry.

Clause 3. (a.) (b.) Drifting with salmon nets, etc.—Under no circumstances should any other description of nets be allowed but drift-nets. Seines, stake-nets, pound or trap-nets should be prohibited for taking salmon in the Fraser or other rivers of British Columbia.

(c.) Weekly close time from 6 o'clock a.m. Saturday till 6 o'clock p.m. Sunday following (as amended).—This should be 6 o'clock a.m. Saturday till 12 o'clock p.m. following Sunday. In this way no violation of the Sunday would be permitted by the Department. At present Sunday fishing is sanctioned by the Department from 6 to 12 p.m. Sundays in British Columbia, but nowhere else in the Dominion.

Clause 4 (a.) (b.) The numbering of boats and nets licensed.—Satisfactory.

Clause 5 (a.) Determining of the number of boats and nets to be licensed.—Satisfactory.

(b.) Total number of licenses for canneries, 350, for freezers and other fishermen, 150—total 500.—Satisfactory.

Fee for boats to canners up to twenty in number, \$20 each, with increase as per allotments.—Satisfactory.

Fee for boats to freezers, and other fishermen (not farmers) \$5, should be \$20, same as canners.

SECTION 2.

Trout Fisheries.

Close Season, 15th October to 15th March, should be 15th September to 15th March.

SAMUEL WILMOT.

October 1st, 1890.

P.S.—After this report on the Salmon Fisheries of the Fraser River was submitted, and placed in type, the following extracts were taken from a valuable article on the salmon fisheries of Alaska, which appeared in the *American Angler* of 22nd November. Finding them applicable to, and corroborative of the subject under consideration they are hereto appended:—

"The red salmon or red-fish also known as the *sawqui* next to the humpback is the most abundant salmon of the Alaska territory. Commercially it is the most important fish and indeed the most valuable product of Alaska. The United States Government has a prospective revenue of \$1,000,000 annually from its seal islands. The people engaged in the salmon fishery last year took about \$3,000,000 worth of fish from Alaska waters, and they were chiefly this little red salmon. This is not a large fish for it averages only seven or eight pounds in weight. * * * It travels the whole length of rivers pushing on to their sources, but unlike its big relative (the quinnat) it spawns chiefly in lakes, and in their tributary streams. At one station in Alaska the principal red salmon station, upwards of 150,000 salmon have been taken in a day. A first class cannery can use about 25,000 red salmon daily. Thirty-six canneries were operated in Alaska in 1889, the value of the pack at an average of \$5 per case was about \$3,000,000."

"It is asked is this tremendous drain of 8,500,000 salmon in a year, likely to endanger the food supply of the natives? Will this industry decline in value from year to year as it has on some of the more southern rivers? Undoubtedly it will, if over-fishing and injurious methods are continued; barriers obstructing the ascent of breeding fish will unquestionably exterminate the species in after years; continual *seining across the mouths of rivers* will certainly hasten the same unfortunate result. The necessity of protecting this valuable resource must be apparent to every intelligent person. Alaska furnishes to-day one-half of the American yield of salmon, and it will be our own fault if the industry is destroyed. We must regulate the fishing by suitable laws, and refuse injurious privileges. The supply must be kept up and increased also by artificial propagation. Fish culture cannot find a more promising field, or a more propitious and urgent occasion. There are still plenty of breeding salmon. * * * The climate is favourable and the population is in sympathy with fish cultural works. Surely here is an opportunity not to be neglected and the time to improve it is now."

SUPPLEMENTARY REPORT.

At the request of the Minister of Marine and Fisheries for a further consideration of certain matter in the report, the following is submitted:

LICENSE FEES.

The regulations of 14th May 1890, read thus:—"The total number of licenses on the Fraser River shall be limited to 500; of this number 350 shall go to the canners at \$20 each, up to a limit of 20; when additional licenses beyond that number may be allotted to the canners at \$50 each, if the whole number does not exceed 350.

"The remaining 150 Licenses are to be issued at \$5 each to the proprietors of freezers on the river, and to fishermen, as the Minister may authorise, but no fisherman to receive more than one license."

The deduction from this regulation is that proprietors of freezers may be granted any number of licenses at \$5 each, whilst a fisherman is restricted to only one license at a similar fee of \$5, but the total number of licenses so issued must not exceed 150.

In a further consideration of this matter it must be understood that in all cases the allotment of 350 licenses to the canners will be fully taken up, and it is not only possible but very probable that, the canners will in one way or another also absorb a large proportion of the remaining 150, intended by the regulation for the freezers and fishermen, for it will be found that a large proportion of the \$5 licenses granted to fishermen will be got directly or indirectly, through the medium of the canners who employ these fishermen. In this way the canners may really become the monopolists, in a large degree, of almost the whole of the 500 licenses, and at a much more reduced price than if the trading fishermen were to pay the more equitable fee of \$20 all round.

It will be found that the payment of \$20 fee by the fisherman for his license would in no way stop the canner from obtaining it in like manner as with the \$5 fee, because the canners are not only anxious, but are asking from the Department the privilege of getting additional licenses at \$20 over the number now allotted to them under the regulations.

Then why should the so-called fisherman, or trader, be permitted to act as the middle man between the canner and the Department at this small fee of \$5, more than with a fee of \$20, for in either case the canner will get the benefit of the increased number of boats over his allotment by the present regulations. The difference is, that the canner gets by this means his additional boats over twenty from the fisherman at \$5 each, instead of \$20 each, which he ought fairly to pay under the operations of the present requirement in the regulation. The fisherman is no better off in either case; the Department loses \$15 on each of these licenses, and the canner gains the \$15.

As an illustration, take two British Columbia inhabitants one an actual settler, or farmer; who pays \$2 for the privilege of fishing for his family's uses only, and is forbidden to sell or barter his fish away, he cannot speculate with the canner in the disposal of anything connected with his license. The other is a person who may be anything, a farmer, trader, fisherman or transient person from any where. He takes out a fisherman's license at \$5, with no restrictions whatever attached; he passes it over to a canner, who gets an additional boat over his limit of twenty under the regulations, and probably makes \$15 into the bargain by this side-wind out of the Department. When put into round figures, the transactions as at present will show as follows:—

| | |
|--|----------------|
| Say 350 licenses to canners, @ \$20..... | \$7,000 |
| do 150 do to fishermen, @ \$5..... | 750 |
| <u>500</u> Total..... | <u>\$7,750</u> |

This sum divided by 500 gives an average of \$15.50 each.

On the other hand, if all are put on an equality, thus:—

| | |
|------------------------------------|----------------|
| Say, 500 licenses @ \$20..... | \$10,000 |
| Deduct 500 licenses, as above..... | 7,750 |
| Difference... .. | <u>\$2,250</u> |

Now, instead of the greater portion of this \$2,250 going into the Department's hands, as it would with a fair and legitimate fee of \$20 to the licensees all round, it goes in this indirect way into the pockets of the canners, and the discrimination intended to be made by the Department in favour of the fisherman by a \$5 fee is, in

the majority of instances, not realized by the fisherman, but is partaken of by the cannery.

It may be said by some persons that the present low license fee of \$5 prevents a monopoly of the boats by the cannery. The above shows it to be otherwise, and gives the chances to the cannery to become the monopolist upon more favourable terms than if the licenses were all placed upon the same standard of \$20 each.

The following is, therefore, submitted, viz.: Give to the cannery the 350 licenses at \$20 each, and give to the proprietors of freezers, and to the trader or fisherman, the 150 licenses at the same figure, and if the freezers and fishermen do not take up the whole allotment of 150, then divide the balance of the 150 not taken up amongst the cannery *pro rata*.

WEEKLY CLOSE TIME.

In the report on British Columbia Regulations, on page 13, the weekly close time, as taken from the regulations of 14th March, 1890, commences on Saturday at 6 o'clock p.m., and closes at 6 o'clock a.m. on Monday following. This was changed by the Department on 27th April, 1890, making the weekly close time from 6 a.m. on Saturday till 6 p.m. on Sunday. This latter time is maintained as being the more correct one, both in the interests of the fishery and from a moral standpoint for the keeping of the Sabbath. But after looking over the various opinions given in the general correspondence, it is contended from both of the above recited causes the close time should end at 12 o'clock midnight on Sunday, thus: "Fishing for salmon shall be discontinued from 6 o'clock a.m. on Saturday to 12 o'clock midnight on the following Sunday."

The Department has already established the time to be from Saturday a.m. till Sunday p.m. at 6, by permission—not by Order in Council. This was done at the request and with the consent of the Cannery Association.

The weekly close time, it appears, was established by law in 1878, "from 8 a.m. on Saturday till midnight Sunday." This was changed again to read "from Saturday noon till 6 p.m. Sunday." Then again in 1888, "from 6 a.m. Saturday till 6 a.m. Monday." Then again in 1889, "from 6 a.m. on Saturday till 6 a.m. on following Monday." Again, in 1890, the close season was changed to read, "from 6 p.m. Saturday to 6 a.m. Monday;" and lastly, by permission of 27th April, 1890, "from 6 a.m. Saturday to 6 p.m. Sunday."

This last period being only of a permissive character for the time being (unless fortified by an Order-in-Council) places the Order-in-Council of March 14th, 1890, as the legal weekly close time for salmon fishing in British Columbia, which is "from 6 p.m. Saturday to 6 a.m. Monday."

This means that the tens of thousands of salmon legally taken during Saturday must, in order to prevent their being thrown away, be dressed and canned on Sunday, and that the many hundreds of hands employed by the cannery will be compelled to work during the Sabbath, and that as no fishing for salmon is permitted (legally) on Sunday, Monday may, or may not, become "the day of rest," instead of Sunday.

At a meeting of the salmon cannery of Fraser River 28th October, 1889, they resolved to direct their delegates to obtain from the Department the same weekly close season that was in existence in 1888, viz.: From 6 a.m. Saturday to 6 a.m. Monday, forty-eight hours. This would mean the keeping of the Sabbath from canning operations, and giving the numerous workmen in the factories an opportunity of keeping Sunday as a day of rest. In this way the requirements of the "Sunday observance laws and of the Fisheries Act would be upheld in British Columbia, as in all other parts of the Dominion. By this request of the Cannery Association for the close season of from Saturday morning till Monday morning the supplies of salmon for Monday's operations in the factories would have to be caught after 6 o'clock a.m. of that day. From this it must appear, from their own evidence, that the cannery would be benefited materially by the permanent establishment of a close time, commencing on Saturday morning at 6 o'clock and ending on Sunday at mid-

night—forty-two hours—from which time fishermen could commence fishing and furnish a fair supply of fish for Monday's work in the factories.

This forty-two hours "close time" from Saturday morning till Sunday at midnight, is no doubt, when taken from every standpoint, the correct one, and should be at once established by the Department as a finality to this hitherto uncertain and changeable system connected with the salmon fisheries of British Columbia.

IN *re* ANNUAL CLOSE TIME.

It was stated in the report, that it seemed paradoxical that no close time existed in British Columbia for the protection of salmon during their breeding seasons, whilst in the other Provinces of the Dominion, and also throughout the world generally, it was considered necessary to have stringent laws enacted to protect almon from being caught or killed when going to or upon their spawning grounds.

Why a Province like British Columbia, which sets forth that the salmon fisheries are one of the principal sources of its wealth, should not be anxious to render every assistance possible to aid the general Government in establishing and enforcing laws to sustain that source of wealth cannot be well understood, unless it be admitted that the particular interests of some score or more proprietors of canning factories are of greater consideration than the general benefit which would accrue to the inhabitants as a whole if such a protective regulation were instituted.

The law giving free access for salmon to reach their spawning rivers, and to prevent unlicensed destruction of them, just before or at their breeding season, is a universally recognised custom the world over, and to allow British Columbia to be an exception to this wise maxim must be considered injurious to the general prosperity of that Province, and unwise for the general Government of the Country not to enforce a salutary law for the protection of salmon at the breeding time.

The close season for salmon in the Eastern Province rivers covers a period from 15th August to 1st March following; and when it is found that the annual migration of these fish up the rivers on the Atlantic and Pacific coasts is about one and the same time, and when it is also known, from the practical operation of gathering ripe ova for the hatcheries on the Atlantic and Pacific sides, that the parent fish lay their eggs about the same time, the strongest evidence is brought out to show that a close season for salmon on the one side of the continent would not be inapplicable to the other side.

The operations of the close time being strictly adhered to has undoubtedly been the principal means of upholding the salmon fisheries of the Atlantic rivers. If the system had prevailed on the Atlantic side which is now so improvidently carried on in the British Columbia rivers, giving unrestricted fishing the whole year round, salmon would have become a thing of the past many years ago in the Eastern Maritime Provinces. Therefore it is that much wisdom would be shown if the Department were to establish a proper close season for salmon in the waters of British Columbia before the point is reached when such a remedial measure would prove less beneficial, and perhaps barely possible to overcome the destructive effects from the absence of a close time.

Whilst the periods of migration and spawning of the salmon in the Eastern rivers and in those of British Columbia are in general terms about the same, yet from a slight difference in the character of some of the species of the Pacific salmon it might not be inexpedient to shorten the close season somewhat in the British Columbia river—say, to commence on the 1st September, instead of the 1st and 15th August, as in the Eastern Provinces.

If a close season regulation in British Columbia waters is not established and enforced the result must be, with the present wholesale fishing going on throughout the whole year, that eventually the salmon crops will become so reduced as, if not to bring about extermination, certainly such a falling off in numbers as will make the industry unprofitable alike to our fisherman and to the inhabitants of British Columbia.

CLOSE SEASON FOR TROUT.

Why desire a change from the present regulation from 15th October to 15th March?

The recommendation for a change is based upon the propriety of having a proper close time—one which will cover the actual period in which these fish lay their eggs. Although the 15th October will take in a portion of the time in which trout spawn it is nevertheless somewhat too late for its commencement, as large numbers of these fish drop their ova during September and the earlier part of October. If, therefore, the close time for trout were to commence on the 15th September, it would be more in keeping with the object in view, namely, to protect trout during the actual time of their spawning.

If a close time is established by a regulation which does not cover the right time it becomes not only nugatory, but admittedly legalises the killing of fish, where, by the wording of the regulation, it is proposed to protect them.

REGARDING SEINES IN BRITISH COLUMBIA.

In the report nets are referred to as follows: "By the regulation of 14th March, 1890, no special description of net is laid down for capturing salmon in British Columbia. Drift nets are mentioned only." Seines for capturing salmon have always been described as being a very destructive net to be allowed in rivers. It has been almost impossible to find out much concerning the use of seines in British Columbia. During 1890 one license for a seine net was granted at \$25, of 200 fathoms, with meshes of $3\frac{1}{2}$ inches extension measure, to fish in Bute Inlet; no other evidence is shown of licenses being granted for seines. As nothing whatever was laid down about seines in the Order in Council of 14th March, 1890, the inference would be that this kind of net was not permitted; but looking up former papers of 1887, the inspector there recommended licenses for seines to fish in salt water to be charged \$25 each; length of fathom 150 and size of mesh $3\frac{1}{2}$ inches. The inspector was instructed to issue such licenses. It appeared then that seines have been permitted; but the inference is that when the Order in Council of 14th March, 1890, was issued, it was considered unnecessary to mention what kind of net should be used in British Columbia for taking salmon. Sub-section 1 of section 1, Orders in Council has been relied upon for granting licenses for "any kind of nets." But sub-section 2 comes in conflict for granting a license for any kind of a net for capturing salmon, with meshes under $5\frac{1}{2}$ inches extension measure. The mesh may be enlarged, but it cannot be reduced under this size in the Order in Council.

In looking at the matter from a practical point, does it not seem somewhat out of place that the seine mesh as formerly laid down at $3\frac{1}{2}$ inches, and which has been licensed in 1890, should be allowed, when the drift net is restricted to $5\frac{1}{2}$ inches mesh? A seine with $3\frac{1}{2}$ inches mesh when drawn must be more fatal to the fish than a drift net, which simply floats on the surface with its $5\frac{1}{2}$ inches mesh. No salmon could pass through $3\frac{1}{2}$ inches, whilst many might escape through $5\frac{1}{2}$ inches. Therefore, a feeling may justly exist against the practice for seining for salmon, as being more destructive than the drift net, and to give the seine additional destructive power with its $2\frac{1}{2}$ inch less sized mesh than the drift net must appear to be conclusively wrong.

RECAPITULATION REGARDING CLOSE SEASON FOR SALMON IN BRITISH COLUMBIA.

In looking more closely for matters *in re* seines it is found that a close season is mentioned in the letter of the Inspector of 11th January, 1887, and in an official memo. thereon of 16th February, 1887, recommending a close time for salmon from 1st November to 1st February. No authentic information is to hand of its adoption by the Department; in fact, the Order in Council of 14th March, 1890, (the latest on record) makes no mention of it, nor is a close season inserted in the Consolidated Regulations as published, but a close season is mentioned in some of the licenses which

had been issued in 1890. Thus, "Annual close season from 1st November to 15th June" appears more particularly as per license to the Skeena River. This must go to show the necessity that exists for having some uniform code of regulations which will establish the description of net and mesh to be used, and the close season to be kept.

In this way more comprehensive information would be obtained for the guidance of fishermen and all others interested in the great salmon fisheries of British Columbia.

I have the honour to be, Sir,

Your obedient humble servant,

SAMUEL WILMOT.

APPENDIX No. 5.

MEMORANDUM ON POLLUTION OF STREAMS AND CONTRIVANCES
ADOPTED FOR THE DISPOSAL OF SAWDUST AND MILL REFUSE.

In the introductory portion of last year's report, at page xxxiii, under the heading "Pollution of Streams," the highly detrimental practice of discharging into the public waters of Canada, the refuse from saw-mills was quite fully dealt with. The different statutes providing against the practice were cited and the "Act for the better protection of navigable streams and rivers" (assented to 23rd May, 1873) was quoted in full.

At the same time it was advanced that, with but trifling cost and very little inconvenience to the extensive milling interests of the country, effectual arrangements could be made to economically dispose of the refuse from the saw-mills, and secure to the fisheries and navigation immunity from an evil which must eventually result in the destruction of both interests, unless some timely measures are adopted to put a stop to the improvident practice.

The destruction and injury to navigation and fish life caused by sawdust is too well established, and has too frequently formed the theme of reports, to need any further arguments in that line in the present connection; but I may remark that in continuation of the report of last year above referred to, and with a view to demonstrating that any reasonable endeavours on the part of the mill-owners to comply with the wholesome statutes provided in this behalf would be attended with successful and inexpensive results, the Department caused a circular to be sent to its local officers throughout the Dominion, particularly with a view to ascertaining whether any and what measures were adopted by the mill-owners to carry out the provisions of the law, and if any machinery was provided for the economical disposal of the sawdust and mill refuse.

This circular elicited replies of which a synopsis is hereto appended, from which it will be observed that while in many instances endeavours were made by the mill-owners to meet the demands of the law, in many other instances insufficient means were provided and not enough care taken to prevent the refuse from passing into the water-courses.

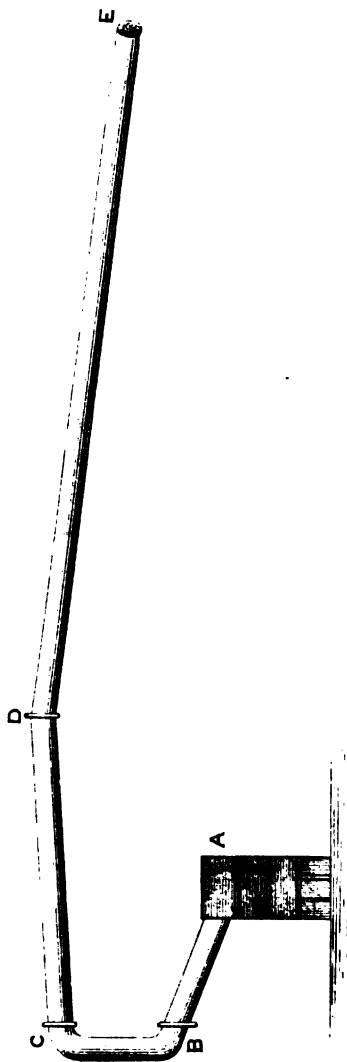
In these latter cases the Department issued instructions to its officers to maintain a strict supervision and take steps to have the law observed, where no exemptions from the law had been obtained.

It will be noticed on reference to page 80 of the appended synopsis that the late fishery overseer for the Peterboro' division in Ontario, forwards a plan and description of an adaptation of the "carrier" principle adopted by the Lakefield Lumber Company, which he states prevents as much as possible the sawdust and rubbish from entering the river, and conveys the latter to a kiln where it is burned, the sawdust being carted away. The cost of this effective machinery is about \$1,500.

At page 79 Inspector Hockin, of Pictou, Nova Scotia, furnishes a sketch of a blast used at the American Wood and Lumber Company's spool factory, at Tanier River, Halifax County, which is represented as being most efficient, and capable of adaptation to a gang-saw. Its cost including freight, duty and setting up is placed at \$350.

Inspector J. R. Kinney, of Yarmouth, Nova Scotia, submits a sketch (see page 81) of a very simple and inexpensive contrivance adopted by the mill-owners at Carleton, Yarmouth County, Nova Scotia, for the conveyance of sawdust from circular saws.

22



SKETCH NO. I,
ACCOMPANYING REPORT OF INSPECTOR R. HOCKIN.

SYNOPSIS.

Inspector BERTRAM, Cape Breton, N.S.:

1. Very few extensive saw-mills in his division and operated only at certain seasons of the year.

2. When called upon in 1888, nearly all mills had boxes erected to catch sawdust. Those who neglected were afterwards compelled to reluctantly comply.

3. Though operations limited, believes sawdust has in past years injuriously affected the fisheries, by polluting waters and covering spawning beds.

A. L. DARCHÉ, Quebec :

No provision made for disposal of sawdust except "the steam mill" which burns it. No navigable rivers in his district; not enough sawdust to affect fisheries.

ALEXANDER McQUEEN, Manitoba :

When appointed, took steps to keep sawdust out of streams; result fairly satisfactory; refuse now carted away or consumed. At Rat Portage and Keewatin, mill-owners constructed appliances, whereby sawdust is transferred to fire-pit and consumed. Six saw-mills on Lake Winnipeg, one on Winnipeg River, two on Bad Throat River, one in Moose Creek, one at Fisher Bay, one at Humbeg Bay, one at Fisher River, sawdust from which carted away from water's edge. In Lake Manitoba, one mill located at Ebb and Flow Lakes; sawdust not allowed into lake. One at east side of lake at Lundyville, not in operation. One mill at Birdtail Creek, near Birtle, two on Lower Saskatchewan River near Manitoulin Post and Rapid City. Regulations observed by them.

Only one stream, the Pembina River, which flows into United States from his district; no saw mills on it.

Inspector HOCKIN, Nova Scotia :

The only machinery in his district is at a spool factory, Tangier River, Halifax County, owned by American Wood and Lumber Company. It consists of a blast which blows the sawdust through a pipe 18 inches in diameter turning corners as in sketch No. 1:—

It is situate in the basement, and blows the sawdust from ABCD to the exit E, 100 yards from the blast. Could drive the dust as far again. If larger pieces screened, could be made to work on gang saw. Cost \$180 in Boston ; freight, duty and setting up bring aggregate cost, \$350.

Overseer G. R. STEELE, Ontario :

Previous to his incumbency quantities of sawdust were allowed to pass into stream to the detriment of the fisheries and navigation. Now violations of the law very rare. The refuse from Parry Sound water mill disposed of as follows : Slabs carted away for fuel ; the sawdust and trimmed ends are caught by elevators to iron burner in the mill yard with brick foundation and extending 150 feet from the ground. The Conger Lumber Company's mill, Midland, and North Shore Lumber Company, the Parry Sound Lumber Company, also Midland and North Shore Shingle and Planing Mill, all steam mills at Parry Sound. At Armstrong's steam mill, 1 mile from Parry Sound the refuse is drawn to the mill yard and disposed of as fuel. At their water mill (at McKellar), sawdust is burned. At John Flesher's mill, on Isabella Lake, refuse is run out into the yard by water power. Sawdust is injurious to both navigation and fish.

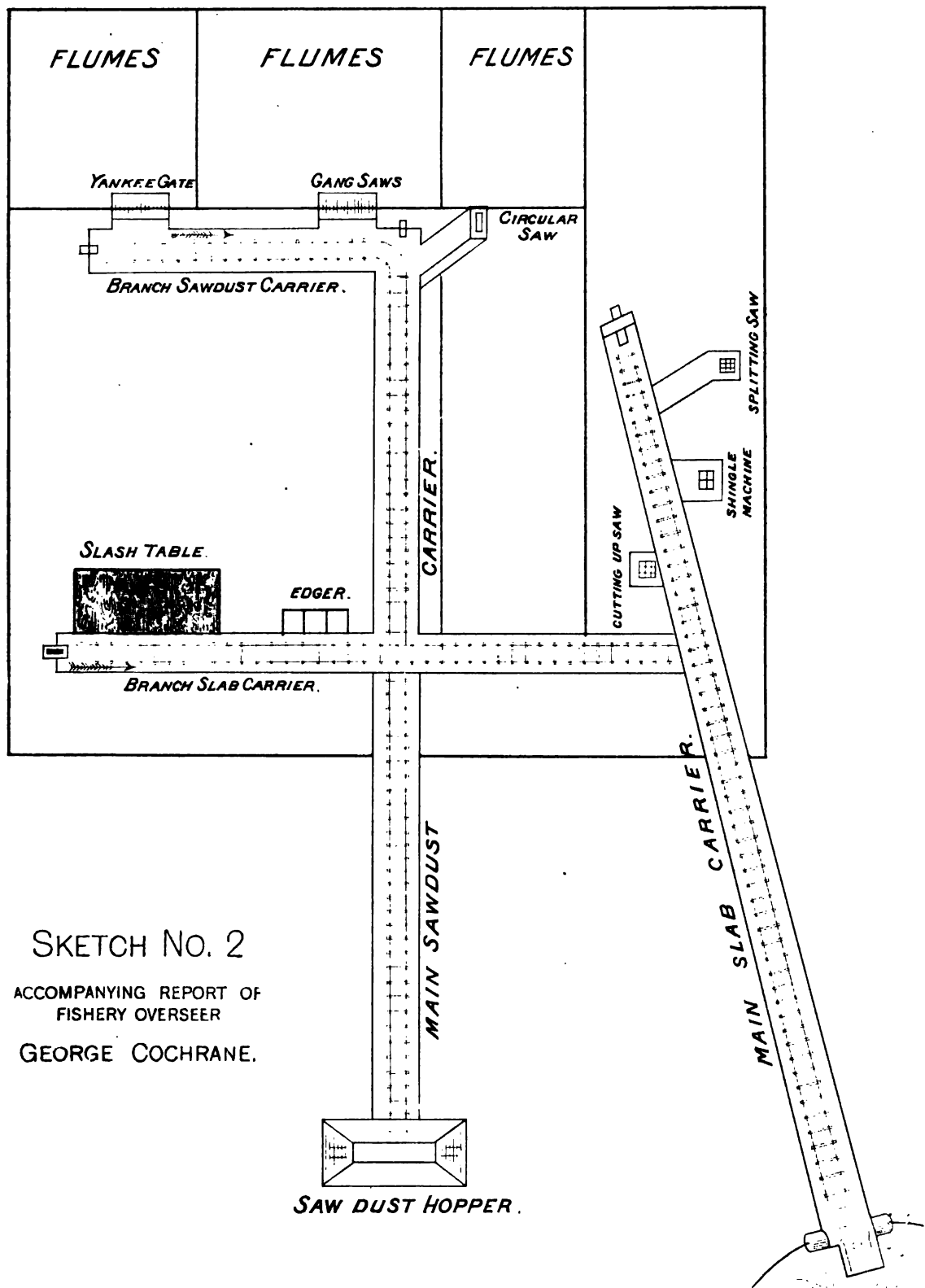
Inspector J. H. PRATT, New Brunswick :

With the exception of the mills at Bonny River, which burn all refuse during the sawing season the sawdust runs into the rivers. On St. Croix River, mills are exempt and sawdust runs into the river ; large refuse is burned and hauled away for fire-wood. All sawmills above tide water. Navigation obstructed by sawdust. Will watch Lepreau and Magaguadavic Rivers sharply. Sawdust highly injurious to fisheries.

Overseer GEO. COCHRANE, Ontario :

All saw-mills on the Otonabee River have machinery for the disposal of sawdust. The Lakefield Lumber Company's being the best, and therefore a sketch is attached. Prevents all sawdust and rubbish from entering river that is possible in a water mill. The boxes in which the carriers run are tight and admit of no sawdust escaping. The sawdust is carted away from the hopper. That which goes into the main slab carrier is burned at the kiln, which is built of stone, 15 feet diameter, 20 feet high. Only small portion of sawdust burned, the rest carted away. Pitman holes, 8 by 30 inches and 3 by 24 inches which is the only chance for the escape of sawdust. Cost of machinery about \$1,500. Sketch No. 2.

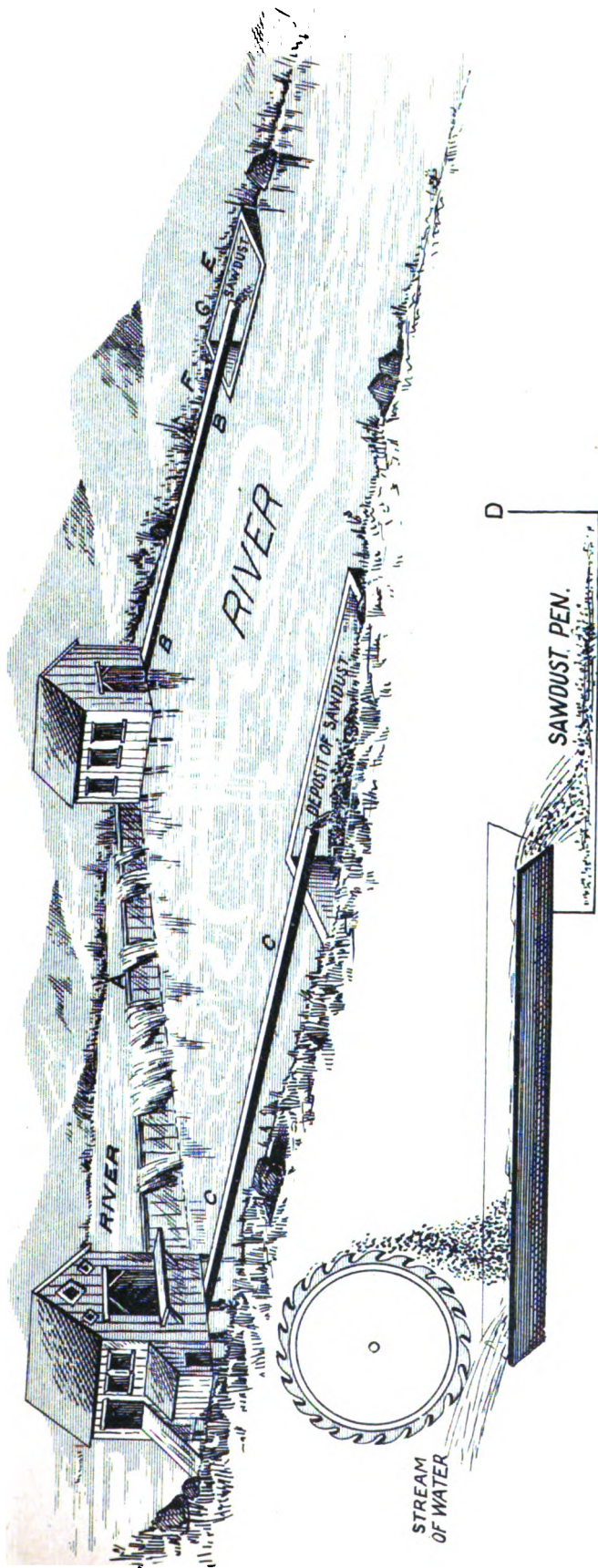
PLAN of SAWMILL & CARRIER.



SKETCH No. 2

ACCOMPANYING REPORT OF
FISHERY OVERSEER

GEORGE COCHRANE.



SKETCH NO. 3, ACCOMPANYING REPORT OF INSPECTOR J. R. KINNEY.

- A. Dam.
- B, B, C, C. Sluice way of V shaped boards, 12 in. wide, into which drops the sawdust from circular saw, behind which flows a small stream of water.
- D. Large pen at edge of river protected by slab enclosure.
- E. Low land at side of river enclosed by tight wood barrier.

At Blyth Mills, Peterboro', the sawdust falls into carriers and is taken to a hopper in the attic, dropped into waggon and carted away. The sawdust from the upright saws falls into the pitman hole and into an apron which throws it into the carrier. Slabs and other rubbish carted to mill yard.

Nassau water mill, refuse burned; sawdust falls through pitman hole.

Dixon & Co.'s mills, carriers from all saws except uprights.

Fishing as good as ever. Navigation interfered with only at Little Lake.

Overseer CHARLES GILCHRIST, Ontario:

Only Messrs. Hillyard and Strickland, at Peterboro', have tried to prevent the sawdust from falling into the river.

Strickland's plan works well and is as follows:—A cross-carrier takes all the sawdust and mill refuse from the pitman hole to a main carrier, which conveys all the dust and refuse to an elevated hopper under which carts are driven and the stuff hauled away. Hilliard's plan is the same, but his floor is defective. Hazlett does the same at his two small mills, but nothing at his large one. Effects of sawdust on navigation and fisheries disastrous.

Overseer HUGHSON, Ontario:

A good number of millers use carriers which conduct the sawdust to the banks of rivers. Some mills have railways and little trucks which are pushed by hand. The steam-mills burn their sawdust. Effects disastrous to the fish in his division.

Inspector HACKETT, Prince Edward Island:

Several small saw-mills in the Province used principally for sawing for domestic use. Provided with no machinery for disposal of sawdust, but are generally provided with a floor below the saw, upon which the dust falls and is wheeled away by wheel-borrows; mills only operated for short time in spring and fall, and if any effort is made to keep out sawdust, the evil is very slight. Sawdust injurious to fisheries, but has never been in sufficient quantities in Prince Edward Island to affect navigation.

Overseer P. W. NAGLE, Quebec:

No sawdust put into the rivers from mills in his division; all carted away and burned or otherwise utilized. Would injuriously affect fish and navigation.

Inspector J. R. KINNEY, Nova Scotia:

Majority of millers merely cart away their sawdust to some dumping ground.

At Carleton the following simple device is adopted:—Sketch No. 3.

A. Dam.

B.B. C.C. Sluice way of V-shaped boards 12 in. wide, into which drops the sawdust from circular saw, behind which flows a small stream of water.

D. Large pen at edge of river protected by slab enclosure.

E. Low land at side of river enclosed by tight wood barrier.

Sawdust has seriously affected streams in his division.

Overseer F. C. GILCHRIST, North West Territories :

No saw-mills in his district.

Overseer J. S. RICHARDSON, Ontario :

Four steam mills in his division ; have carriers and burn refuse ; three water-mills, two of which have carriers and cart refuse away, the other piles it near the river, and when water raises it is carried away. Sawdust and mill-refuse is very injurious to fish.

Overseer JOEL SHURTLEFF, Quebec :

No machinery for disposal of sawdust ; some millers burn it, but he believes that a large quantity is being put into the water.

Overseer F. WEBBER, Ontario :

Majority of mills are steam-power and have iron burners for disposal of sawdust. The largest water-mill (Drinkwater's), on North River, also has burner ; most of the other water-mills have stone burners.

Since prosecution of mill-owners on Severn River two years ago, millers in his district have complied with law. Besides, sawdust is in great demand for road-building and in the extensive ice business carried on there by Americans.

Overseer J. R. GRAHAM, Ontario :

Twelve steam and four water mills in his division. The greater part of sawdust is burnt, and some is carted away, and some used for building piling grounds. Believes sawdust is injurious to fish.

Overseer F. G. M. FRAZER, Ontario :

Steam mills have sheet-iron burners for disposing of sawdust, as also have some of the water mills. Thinks it almost impossible to prevent sawdust from going through pitman hole, but believes improvement could be made if law was strictly enforced. Sawdust is frequently shovelled into the water, which, if not prevented, will destroy fisheries. It also interferes with navigation.

Overseer A. D. SILLS, Ontario :

Sawdust is sold for various purposes, and in mills where it is not sold it is carried by chains from the saw to a platform under the mill. The mill-owners state that it is drawn away from here, but he is of opinion that large quantities are secretly dumped into the stream.

Steam mills burn it.

Its effects on navigation is shown by the operations of dredge at Napanee, where hundreds of tons have been taken out.

It is also injurious to spawning beds.

Overseer J. GRANT, Ontario :

Two steam and two water mills in his district ; steam mills burn part of sawdust and use rest for building piling grounds. Water mills cart away and burn what they don't use otherwise. None put in river. Very injurious to navigation and fisheries.

Overseer J. KELLY, Quebec :

Those who have not elevators for disposing of sawdust have floors from which it is carted away. They promise to get elevators. Considers it injurious to spawning beds.

Inspector R. A. CHAPMAN, New Brunswick :

The steam mills burn most of the sawdust for fuel. The water mills in nearly every case, and some of the steam mills, let it run into the water, much to the injury of spawning beds. Recommends enforcement of the law. To give any idea of the different kinds of machinery used would involve visiting mills in different parts of his district and making plans and specifications.

Overseer P. C. BOURK, Quebec :

At Geo. Bertrand's mill at Plessisville, on White River (water power), sawdust thrown into river. Thos. Kelly's steam mill, in the Township of Somerset South, on Black River, empties into the river all the sawdust and part of the other refuse. Messrs. King Bros.' steam mill in Township of Nelson, on Becancour River, refuse burned for fuel, sawdust all put in river. Believes sawdust to be injurious; fish diminishing every year.

Overseer W. McDERMOT, Ontario:

Only three mills have machinery, on the principle of elevators, with slats instead of buckets. All the other mills (seventeen), except two, dispose of it with carts and wheelbarrows; the two exceptions float it away in troughs or sluices. Some leave it piled up high near the banks, and it is carried into the water by freshets. Recommends that Act be amended to specify distance from the shore at which it shall be placed.

Overseer W. HELLIWELL, Ontario:

Only two water mills in his division—one on the Humber, the other on the Rouge. They are situate above grist and woollen mills, and the small amount of sawdust they make does not affect navigation or the ascent of suckers, the only fish frequenting these streams. The timber supply has long disappeared, and other mills have rotted away.

Overseer F. KERR, Ontario:

Has heard no complaints of the effects of sawdust either on fisheries or navigation. No lumbering or sawmills along the rivers in his locality. The best contrivance that he has observed is at Samuel Campbell's mill, Progresston, Wentworth County, on the Twelve Mile Creek. It consists of a large brick furnace, with high funnel; a wooden flume runs from under the saws to the furnace, with elevators and belt carriers, which convey all sawdust and rubbish to the furnace.

Overseer BRINKMAN, Ontario:

Sawdust much complained of on the south side Manitoulin Island. It is said to come across Lake Huron from Michigan. Flour mills at Little Current have burners; no complaints. Mr. Mutchmore, owner of mills at Providence Bay, should be compelled to provide a carrier or burner to dispose of refuse. Heard no complaints against sawdust impeding navigation.

Commander WAKEHAM, Quebec:

Has now visited all sawmills in his division. Law fairly well observed. No navigable rivers in division; greatest number of mills in estuary of Restigouche. Of late years care taken to prevent sawdust from entering rivers.

No. 1. Steam Sawmills.

Montgomery's, New Richmond, pine and spruce; Kelly's, Port Daniel, pine and shingles; King Bros, Pabos, pine and shingles; Baird, Douglstown, shingles; McKinnon, Gaspé, boards and shingles; Russell & Richardson (spool-wood) Cape Chatte; O'Leary's, Mission Point, pine and spruce (not in operation); Ross Estate, Magdalen River, pine and spruce, (not in operation). Sawdust refuse burned or carted away.

No. 2. Large Water Mills.

Lowery's, Oak Point, Restigouche, pine and spruce; Gagnon Bros., Penticost, north shore, spool-wood and spruce.

No. 3. Small Water Mills.

Monderson's Maria, boards; Day's, Bonaventure, boards; Welsh's, Shegawake, boards; Birger's, L'Anse à la Barbe, boards and shingles; Laterrer's, Cape Cove, boards; Savage's, Cape Cove, boards; MacCallum's, Barachois de Malbaie, boards.

No. 4. Spool-Wood Mills by Water.

Pierre Leclerc's, Ruisseau Arbour, spool-wood; Chs. Bertram's, Marsoins, spool-wood; Chs. Bertram's, St. Ann's, spool-wood; T. J. Lamontague, St. Ann's, spool-wood; Jos. Labrie, St. Ann's, spool-wood.

Very little sawdust made by these mills and very little escapes into the water.

The only machinery used is an endless belt system, with slats (carriers).

At Gagnon Brothers they have a water-box underneath the mill, through which is a constant flow of water when the mill is at work, and the sawdust is run into ponds and retained.

Cannot find any evidence of bad effect on fisheries or navigation in his division.

Overseer G. B. McDERMOT, Ontario:

Only sawmill in his division of any importance is Sadler, Dundas & Co.'s water mill at Lindsay. They use all their sawdust to run their grist mill, and sell the edgings. Scugog division perfectly free from sawdust nuisance.

Overseer W. P. CLARKE, Ontario:

Gilmour's mill at Trenton, Holton's at Belleville and Rathbun's at Deseronto are the only sawmills in his division. Gilmour's burns all refuse in large furnace. Horton's used for fuel and packing ice. The sawdust from Rathbun's mill is used for fuel, &c. No water mills in his division.

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APPENDIX No. 6.

POUND-NET FISHING—GEORGIAN BAY.

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- I. Initial Report by Mr. Charles Wilmot.
 - II. Opinions of officers and others.
 - III. Review by Mr. Charles Wilmot.
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I

INITIAL REPORT BY MR. CHARLES WILMOT.

NEWCASTLE, 1st January, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In addition to the customary annual report upon fish-breeding connected with the Newcastle establishment, which I am called upon to forward to the Department, I take the liberty of giving information gleaned from my observations with fishing interests, and my practical experience in connection with the collection of fish eggs for the hatcheries in Canada during the past ten years, upon the relative merits of the pound and gill-nets, legally used for catching the marketable fish of our great lakes.

This subject has caused considerable discussion among fishermen and wholesale dealers for several years past, and the opinion generally prevails that all information bearing upon this important question should be submitted to the Department, in order that the most beneficial net, viewed from every standpoint, may be adopted.

The large amount of money invested in fishing enterprises in the Province of Ontario, and the revenue derived by the Government from this industry, make it important that such action should be taken as to render the too rapid depletion of our fish impossible, and the means employed for capturing them made so satisfactory that when eaten by the consumer they will be in good condition. At the present time a great deal of dissatisfaction exists among wholesale dealers and their customers, owing to the fish not being in a sound condition for food, especially when arriving at destinations long distances from the fishing grounds. The cause of this, in my opinion, is largely due to the use of the gill-net. The present system of operating the gill-net by the ordinary run of fishermen is to have from two to four gangs set in different localities; these are lifted alternately, usually remaining in the water from three to four days, but in case of rough weather the fishermen cannot reach them, and the fish are not removed for a much longer period. The result is that a large proportion of the fish, when taken from the net, are in a somewhat decomposed state, and it stands to reason that their condition will not be improved by the time they arrive at the important fish markets, such as Toronto and Buffalo, to be sold to the retail dealers of Canada and the United States, after having been kept for a week or more. It is well known that a large percentage of the fish taken by the gill-nets are unfit to be shipped fresh. If in good order when caught it would profit the fishermen to ship them in that state, as they command a much higher price than when salted. The reason that such a large number of fish are salted is, simply because they are not marketable to ship as sound, fresh fish. The effect of

the salt put upon them for curing purposes temporarily hardens the fish, deceives the buyer, and leads the consumer to the mistaken idea that they are wholesome, when in a great many instances they are really unfit for human food.

On the other hand, the fish caught in pound-nets are kept alive and uninjured until taken out, and even in the event of a storm arising to prevent the fisherman from going regularly to his nets it makes no difference, as their construction permits the fish to swim around the pound or trap without injury; consequently, they are in a better condition when arriving at market than those captured by the gill-net, which gills and kills the fish, and where they remain in the water for days, to be knocked about by the storms until taken from the meshes of the gill-net. The effect upon fish, left in the water in a dead state, is to deprive them of their flavour, and to make them soft, flabby and unwholesome as food, thus greatly reducing their marketable value.

I am of the opinion that the gill-net is much more destructive than the pound-net, and its use as at present practised must eventually exterminate the salmon trout and whitefish. In districts where extensive fishing is carried on by means of gill-nets many miles of fishing grounds are covered, and while the meshes of these nets are made sufficiently large (say, $4\frac{1}{2}$ or 5 inches) to capture the most marketable fish, they allow the poorer classes (such as the sucker, the mullet and the ling, averaging 2 pounds in weight, and for which there is no demand) to escape. These useless fish must naturally increase and multiply rapidly, and during the winter and the spring months they are known to live very largely upon the eggs and the fry of the salmon trout and whitefish, and if no steps are taken to exterminate them they must eventually sooner bring about the extinction of the better class of fish. An important principle in agriculture is that the weeds and tares must be destroyed in order to permit the proper grain to grow. This rule is also applicable to the successful growth and maintenance of fish, and we must, therefore, remove the useless fish as much as possible, if the better kinds are expected to bring about fruitful results.

Another object to be gained is that it would be impossible to use the pound-net illegally with any degree of success during the close time, for the following reasons: An ordinary pound-net is about 30 feet square, and generally stands above the surface of the water from 4 to 6 feet when set; it must be placed in a sufficient depth of water, on clay bottom, to allow the necessary stakes to be driven to hold it in place; it cannot be set upon the shoals and gravelly spawning grounds, and in either case it could be readily seen at a long distance by any active fishery officer or other person; its cost is such that no fisherman would run the risk of its being seized and confiscated, and therefore the provisions of the law for the protection of the fish would be more strictly obeyed if the pound-net system were adopted.

It is not my intention to make any statements here or to cast reproach upon persons having a large amount of capital invested in gill-net fishing, as I am fully convinced, from the views expressed to me by many of them, that they are equally anxious with the Government to carry out the provisions of the law, and to do all they can to preserve the fishing interests of the country.

It would be well to note that in most cases the law is violated more by persons having very small capital invested, and who do not follow fishing wholly as a means of livelihood, and in many instances obtain no license or legal permit to fish at all; but, owing to the fish being captured very readily during the spawning season, almost opposite their own doors, they can, by the gill-net system, do a vast amount of harm with a very small investment and little labour.

There is no question in my mind but that too many gill-net licenses are granted; they cause the feeding and breeding grounds to be too extensively fished, and storms have an injurious effect upon them, owing to many of the gill-nets being cast adrift containing large numbers of fish, which die and pollute the waters.—This in addition to the over-fishing, hastens depletion, and the grounds become barren.

The pound-net, if made with a legal mesh (say 4 inches), would not only capture the desired fish, but also retain the inferior ones; and if the fisherman were compelled

by legal enactment to take these useless fish ashore, which are so rapidly filling the waters, the farmers would only be too glad to draw them away for the purpose of fertilizing the soil. By this means the sucker, the mullet and the ling would diminish, and their powers to injure the propagation of the salmon trout and whitefish would be very much lessened. This method of fishing with the pound-net would enable the half grown and immature salmon trout and whitefish to escape uninjured, and the objections and defects complained of, where the 2½-inch pound-net is in use, would be remedied.

It might be supposed by those unacquainted with the habits of the better class of fish that they live upon the inferior ones. This, however, is not the case. Salmon trout feed largely upon herring; the sucker, the mullet and the ling form no part of their food, while the whitefish are not of a predaceous nature, but live wholly upon crustacea and insect food. As a further proof of the correctness of my theory in upholding the merits of the 4-inch pound-net, it should be observed that, while the larger herrings may be caught in it for marketable purposes the supply of smaller ones, upon which the salmon trout feed, will not become exhausted, as they pass easily through and out of this net.

This cannot be said of the gill-net in regard to small salmon trout, which come under the classification of predaceous fish. Large numbers of them, averaging 6 and 8 inches in length, are frequently entangled by their teeth, on account of the net being constructed of such fine thread, and they do not see it until caught in this way. The pound-net is made of much coarser twine, and is so conspicuous, having been coated with tar to prevent its decay, that these small fish readily see it, and are not injured in passing through.

During the close time of thirty days in November the salmon trout and whitefish frequent the shallow waters, where gravelly bottoms are to be found, for the purpose of spawning; here they are more easily caught than in the deeper waters in the open season. The construction of the gill-net is specially adapted for the destruction of the parent fish in these localities; it can be used illegally by fishermen, without even a buoy to mark its location. It is therefore impossible for the most energetic fishery officers, having as they do, districts under their charge extending over limits a hundred miles or more, to enforce the law. It is at this season of the year that so much harm is done to the fisheries by these illegal fishermen, who fish in a wholesale manner, and either salt the fish, or sell them to other parties having facilities for freezing them, and then after the close time is passed, they are disposed of as marketable fish which were captured in the open season.

The large amount of money invested in gill-net fishing by virtue of the numerous licenses which are granted from year to year renders it almost impossible to adopt immediate steps to abolish this system, even if the Department felt inclined; but in my opinion the number of licenses should be gradually reduced, and, finally, none granted for gill-net fishing later in the fall than 15th October, as this is the time of the year when the salmon trout and whitefish leave their feeding grounds, and seek their breeding grounds for spawning purposes.

CHAS. WILMOT,

Officer in charge of the Newcastle Hatchery.

II

In accordance with directions, a circular was sent to fishery officers and others on Georgian Bay, asking their views as to the advisability of allowing a limited amount of pound-net fishing in the above named waters, and curtailing gill-net fishing.

The following answers to the questions submitted, together with a review by Mr. Chas. Wilmot, Fishery Officer in charge of the Newcastle hatchery, have been received:—

QUESTION No. 1.

Whether it would be advisable to allow pound-net fishing in Georgian Bay, under certain restrictions?

Overseer Shackleton, Colpoy's Bay.—No.

Overseer Miller, Owen Sound.—Yes; on the mainland, and on condition that the nets do not extend more than half a mile outside.

Warden Cameron, Killarney.—No. Gill-net fishing is now carried on so extensively in the bay that further devices for catching fish are unnecessary.

Overseer Wilson, Sault Ste. Marie.—Yes; should be allowed under certain conditions and restrictions.

Overseer Fraser, Victoria Harbour.—No; should be forever prohibited—very destructive to all kinds of fish.

G. P. McIntosh, Fish Dealer, Meaford.—Yes; would allow them in any part of the bay, but those on mainland not to extend more than half a mile from shore.

Overseer Brinkman, Manitoulin Island.—Yes, under certain restrictions.

Charles Noble, Fish Dealer, Killarney.—Yes; too many of them might not benefit the fisheries, but they would not be half as objectionable as those set in the channel of Lake Huron.

C. W. Gauthier, Fish Dealer, Windsor and Detroit.—Yes, under certain restrictions.

W. A. Clark, Fish Dealer, Collingwood.—Pound-nets are very destructive.

QUESTION No. 2.

What size of mesh would you recommend?

Overseer Shackleton.—Leader, 8 inches; pot, 5½ inches.

Overseer Miller.—Leader, 6 inches; pot, 4 inches.

Warden Cameron.—No recommendations.

Overseer Wilson, Sault Ste. Marie.—All parts of pound-nets should be not less than 6 inches, extension measure. Nets should be at least six miles apart.

Overseer Fraser, Victoria Harbour.—No recommendations.

Mr. McIntosh, Meaford.—Any size in lead ; not less than 4 inch in pot.

Overseer Brinkman.—Leader, 5 inches ; pot, immaterial.

C. W. Gauthier.—Leader, 7 inches ; pot, 4 inches on three sides, and for the back 3½ inches.

W. A. Clark.—Leader 5½ inches ; pot, .5 inches.

QUESTION No. 3.

In what particular places of Georgian Bay would you recommend that pound net fishing be allowed ?

Overseer Shackleton.—Nowhere.

Overseer Miller.—Anywhere on the mainland.

Warden Cameron.—No answer.

Overseer Brinkman.—Localities should be decided upon by local fishery officers. No pound-nets should be allowed in channels, mouths of rivers and fish "runs."

Overseer Wilson, Sault Ste. Marie.—Not sufficiently familiar with Georgian Bay to recommend particular places. Strongly advises that they be not allowed in or near the channels between Owen Channel and Cape Hurd, including former.

Overseer Fraser, Victoria Harbour.—No recommendations.

Mr. McIntosh, Meaford.—Anywhere on the mainland.

Chas. Noble.—This should be decided by the Department, in accordance with information received.

C. W. Gauthier.—On the west side of Georgian Bay only, no pound-nets should be allowed on the east side, nor around Squaw and Bustard Islands, as these are considered to be the natural spawning grounds of whitefish.

W. A. Clark.—Would permit pound net fishing between Cape Rich and Cabot's Head, on the western shore of Georgian Bay, Lonely Island, Point Grondines, or at any exposed places where "the early gales in September and October would blow these nets from their moorings."

QUESTION No. 4.

Would it be advisable to prohibit gill-net fishing entirely, or curtail it, by increasing the fee \$10, and prohibiting fishing with tugs ?

Overseer Wilson, Sault Ste. Marie.—Not entirely ; both licenses to be increased to \$20, and all fishing operations by tugs prohibited.

Overseer Fraser, Victoria Harbour.—Curtail it, by making fee for boats \$10. Fee for tugs fishing over 10,000 fathoms to be \$50 would not do away with fishing with tugs.

Mr. McIntosh, Meaford.—Fee of \$5 sufficient ; not necessary to prohibit gill-net fishing ; all protection needed is enforcement of 5-inch mesh ; would prohibit fishing by tugs.

Overseer Shackleton.—No. The 5-inch mesh should, however, be strictly adhered to. The fee is high enough, but would recommend curtailing the quantity of nets to be used.

Overseer Miller.—No. The fee is high enough for all purposes of protection. The trouble is, that the regulation 5-inch mesh is not observed. Tug fishing is very injurious.

Warden Cameron.—To prohibit gill-net fishing altogether would be a great hardship. To increase the fee to \$10 would be more in keeping with the additional quantity of nets used by each boat. Tug fishing is a nuisance (they use enormous quantities of nets and injure boatmen's nets, by setting across the latter.)

Overseer Brinkman.—Would not favour total prohibition of gill-net fishing, but would recommend placing the fee at \$10. Tug fishing is not a bit more injurious than boat fishing, if properly carried on, with nets of legal size.

Chas. Noble.—It would be utterly impossible to prohibit gill-net fishing now, because each fisherman on Georgian Bay has his whole invested in it. The trouble is, that there are too many persons engaged in the business. In the neighbourhood of Collingwood there are 1,500 persons depending on this industry for a living. Five dollars for a boat is high enough. The fee on tugs should be reduced to \$10.

C. W. Gauthier.—Does not favour total prohibition of gill-nets, but rather curtail them, by limiting each boat to 6,000 yards of net and raising the fee to \$10. Tugs should be rated at \$25 each, and limited to 15,000 or 20,000 yards of net.

W. A. Clark.—Total prohibition would be a great hardship. An increase of the fee to \$10 would also be heavily felt by the majority of fishermen. Tugs are more advantageous than sail boats for fishing, and fish double the quantity of nets.

QUESTION No. 5.

Under what restrictions as to localities, number and size, should gill-net fishing be permitted?

Overseer Shackleton.—A general reduction in mileage is necessary.

Overseer Miller.—Fishermen should be allowed to fish in any part of the bay, and the 5-inch mesh strictly enforced.

Warden Cameron.—No change recommended.

Overseer Brinkman.—No change recommended.

Chas. Noble.—Recommends that the size of mesh be fixed at $4\frac{1}{2}$ inches. Most of the nets now fished are $4\frac{1}{2}$ and $4\frac{3}{4}$ inch.

C. W. Gauthier.—Gill-net fishing should be allowed on the south and western sides of the bay, but not on the eastern side, or around Squaw Island and Bustard Island, as these are the natural breeding grounds of whitefish. Meshes should be $4\frac{1}{2}$ inches.

Overseer Wilson, Saulte Ste. Marie.—Reduce the number of nets to each boat and strictly enforce the 5-inch mesh.

Overseer Fraser, Victoria Harbour.—Cannot see that anything can be done in restricting fishermen to certain localities. Fee for boats fishing more than 8,000 fathoms should be \$15; mesh, $4\frac{1}{2}$ inches.

Mr. McIntosh, Meaford.—Allow fishermen in any locality in bay.

W. A. Clark.—The mesh should be $4\frac{1}{2}$ inches. After 18 months, notice all nets found under this size should be confiscated.

QUESTION No. 6.

Name localities where, in order to secure the better protection of breeding fish, no fishing of any kind should be allowed?

Overseer Shackleton.—No places named. Suggests strict observance of close-season and law regarding offals.

Overseer Miller.—No places named. Five-inch mesh and law against throwing of offal should be strictly enforced.

Warden Cameron.—No fishing should be allowed at the mouth of Bad River, near French River, Fox Islands and Frazer's Bay.

Overseer Wilson, Sault Ste. Marie.—No fishing should be permitted within a radius of ten miles from any hatchery. Recommends prohibition of exportation of speckled trout.

Overseer Fraser, Victoria Harbour.—Waters comprised within following bounds: from one mile out abreast of Grumbling Point thence to lighthouse on Bustard Island to a point one mile abreast of Byng Inlet lighthouse; thence to the inside end of McKay's Island; thence to the Red Rock lighthouse, on to Sandy Island; thence to a point one mile abreast of Moose Deer Point; thence to the Gin Rock lighthouse, and on to the buoy at the southerly end of Beausoleil Island.

Fishing for herring during months of October and November only to be allowed in above limits. Herring fishermen not to pay more than \$5 fee, if boat license is raised to \$10.

Mr. McIntosh, Meaford.—No recommendations as to localities. Considers whole question of protection summed up in enforcement of the 5-inch mesh.

Overseer Brinkman.—Difficult question to answer, as the fish change their breeding grounds every season.

Charles Noble.—Suggests putting up hatcheries on the bay to hatch out the ova collected from Killarney to Christian Island.

C. W. Gauthier.—No fishing should be allowed on the east side of Georgian Bay, from Fox Islands to Penetanguishene.

W. A. Clark.—No pound-nets should be allowed in the north channel of Lake Huron, "only on the head lands and in places unprotected against the gales."

III

REVIEW BY MR. CHARLES WILMOT.

NEWCASTLE, 1st January, 1891.

The Honourable C. H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with your direction I herewith submit a supplementary report dealing fully with the question of pound-net as against gill-net fishing, the merits and demerits of which were referred to in a previous report from me upon which the Department obtained some opinions from its officers as well as interested parties which were referred to me for report. Owing to the importance of this subject and the interest at stake, not only to the fishermen engaged in this industry, but to the future commercial welfare of the country, I have purposely delayed submitting this review until I could thoroughly acquaint myself with every phase of the subject. This I considered could not be accomplished in a practical way without having every facility for securing information; and as Wiarton is the largest shipping point for fish in Ontario caught by means of the gill-net, and also the field of our operations for securing a supply of eggs by the pound net system, I thought it well to defer the report until after my visit there.

Before finally reviewing the correspondence referred to, I would like to call your attention to a few additional arguments to those I had previously submitted.

It is a well known fact that in the deeper waters of the lake there are varieties of vegetable growths upon which certain insects exist. These insects are the food of the young salmon trout, whitefish and herring. Here the full grown adult and marketable fish are captured by means of the gill-net whilst they are in that locality preying upon the smaller fry. In some places this vegetable production matures earlier than in others, and it will be readily understood that the instinct of the smaller fish teaches them to leave these grounds as they become barren of food.

In fact, the maturing and dying of the vegetable growth referred to means a general change for all—insects, fry, parent fish and the fishermen. The latter, who find the fishing grounds exhausted, naturally remove their nets from place to place, until they have found the habitation of the fish, which virtually means a locality where a later production of vegetable matter is to be found. Here the gill-net fisherman, for a certain period, meets with success; but later on in the season (say 15th September) the call of nature instinctively leads the salmon trout and whitefish to seek the shallow waters around the islands and along the main shores where there are natural spawning grounds. The fisherman operating the gill-net system again removes his nets to these grounds where the fish are gathered in large numbers, and on account of their pregnant state they are dull and sluggish, and more readily caught than at any other period of the year.

From the foregoing explanations, it will be observed that, with gill-net appliances and their facilities for easy removal from feeding to spawning grounds, it is a very difficult matter for the fish to escape being caught. A deplorable fact in connection with this system, and one very much to be regretted, is that a large proportion of the fish caught by means of the gill-net are taken off the spawning grounds at a period when they are not in marketable condition.

The loss of the fish at this season, even though not fit for food, is of little moment when compared with the destruction of the tens of millions of eggs which should have been deposited naturally. Had the parent fish not been molested by the gill-nets, they would have produced supplies of valuable fish food for future years.

From the peculiar construction of the pound-net it cannot be removed from place to place, as it is a stationary engine, and the fish must come in contact with it; otherwise, they are not caught; and as it must be set in deep water, with clay or mud

bottom, it does not capture them so readily upon the spawning grounds. The result of this is that in grounds where pound-nets have been in use for the past fifteen years the fishing is apparently almost as good as ever, but in localities where the gill-nets have been operated the grounds have become entirely depleted in about five years time.

As an illustration of the correctness of this view, I would call your attention to the American shores of Lake Erie, where, even with a small-meshed pound-net (say 1½ and 2 inches, which I am strongly opposed to) fishing has been carried on for the past twenty years in a most extensive manner, without any apparent signs of decrease in the better classes of fish; while in the Canadian waters, in the vicinity of Goderich, Kincardine, Southampton and other important localities where gill-net licenses were extensively granted in past years, the fish are almost exterminated, and the large capital invested in fishing enterprises at these points has been withdrawn, to be utilized in new fields of operation.

By means of the gill-net, fishing is carried on in a very extensive way; and to give an idea of its magnitude I may cite the case of the Georgian Bay, where parties holding tug and fishing boat licenses, the Indians and persons fishing without the lawful right to do so, have yearly upwards of 1,000 miles of gill-nets in use, or almost enough net set to encircle those waters twice. Even if the nets were set, as above described, they would not be nearly so injurious as when placed upon the feeding and spawning grounds of the fish in every possible shape and form; and to make matters still worse, large numbers of these nets are cast adrift from their buoys by storms never to be found again by the owners, but their construction is such that portions of them continue gilling and destroying the fish, and polluting the waters for many months after they have been lost. This, in my opinion, is one of the great evils of this system, and requires the most careful consideration upon the part of the Fisheries Department, in order to have it properly remedied.

The evil spoken of in connection with gill-nets, so far as polluting the waters and fouling the fishing grounds with dead fish is concerned, cannot possibly occur where the pound-net is in use, as the fish escape uninjured in case the net becomes adrift. Neither can it exhaust the fish on their feeding or spawning grounds, because it cannot be set in either very deep or very shallow water.

I am informed that a petition was signed some years ago by a large number of gill-net fishermen in the Georgian Bay district, which stated that the pound-net was a most destructive engine, and its use was fast exterminating the salmon trout and whitefish in this locality.

The arguments set forth in this petition must have carried considerable weight with the Department, as the pound-nets were immediately abolished. I feel confident that the cry must have been exaggerated, and had the pound-net fishermen had an opportunity to show their side of the question in its true light the Department would have looked into this matter more thoroughly, before taking final steps to do away entirely with this less objectionable and scientific method of fishing in these important waters.

REVIEW.

A great deal of difficulty attends the summing up and reviewing of the correspondence transmitted to your Department by fishery officers and interested fish dealers, as the former do not appear sufficiently familiar with the practical working of the pound-nets to give an opinion upon which the Department could prudently take action. In the majority of instances the gill-net system is the only one brought to the notice of the overseers of the Georgian Bay; and having no pound-nets in their district, they have no opportunities of becoming acquainted with the working of that appliance; while, on the other hand, the fish dealers referred to would naturally favour the system in which they have their capital invested, and from conversations with some of them I am of the opinion that they have not made a study of this important question.

In support of this view I might quote Overseer Shackleton, who, in answer to question No. 1: "Whether it would be advisable to allow pound-net fishing in the Georgian Bay, under certain restrictions?" simply answers "No," without giving any argument in support of his contention; and in reply to question No. 2: "What size mesh would you recommend?" says: "Leader, 8 inch, pot 5½". Any one acquainted with the pound-net must know that if these dimensions were adopted it would not only allow the enemies of the better class of fish, such as the sucker, the mullet and the ling, to escape, but the average-sized marketable fish as well. Then, again, the same officer, in answer to question No. 3: "In what particular place in the Georgian Bay would you recommend pound-net fishing to be allowed?" instead of giving information in regard to the matter, states "Nowhere". Then, further, in answer to question No. 5: "Under what restrictions as to localities, number and size, should gill-net fishing be permitted?" Officer Shackleton evades the question altogether and says: "A general reduction in mileage is necessary"!

In my opinion, the Departmental Regulation now in force in reference to the number of yards or miles of net to be used by each license holder is right; but the fault is in the officers permitting gill-net fishermen to use almost any quantity of net and size of mesh they desire. Warden Cameron, in answer to question No. 1, says "No; gill-net fishing is now carried on so extensively in the bay that further devices for catching fish are unnecessary." This is really no argument at all, for if a better and less destructive method of fishing could be established surely it is in the interest of the fishermen and the Department to bring about its adoption. He evidently appears satisfied to permit this "extensive" gill-net fishing to continue, but suggests nothing to prevent the depletion of these valuable fisheries in the Georgian Bay, which must, in the course of a few years, become almost exterminated by this "extensive" gill-net system. For some reason, Officer Cameron gives no answer to questions 2, 3 and 5. I am quite in accord with the views of this officer in answering question 4, where he states, "\$10 license per boat should not be considered an overcharge"; but I will suggest a fair and just way to decrease the number of licenses to be granted gill-net fishermen. In the first place, no person should be granted a license to fish who does not make it a specialty for his livelihood in that way. A great many cases are known where bushmen, labourers and farm hands, engaged in work at fair wages during the summer months, deliberately leave their employers service (inconveniencing them), between the 1st and 15th of October, and when the fish are seeking their spawning grounds they commence fishing. These so-called fishermen are provided with gill net appliances by extensive fish dealers, by employees of the American fish monopoly. At this season the fish are easily captured, and these parties reap a good harvest, much to the injury of the regular fisherman. Having no capital of their own at stake they run great risks of losing their outfit, and fish in such remote places, as a rule, that they don't even pay the license, unless the fishery officer happens to come in contact with them, and in nine cases out of ten fish during the entire close season. The fish captured in this way after the 30th of October are either frozen or secretly salted and put upon the market at a later period. This is not only a violation of the fisheries law, but a damage impossible to reckon to the fishing interests of the country. If the Department compelled their officers not to grant licenses to these parties there would be no difficulty in having the grievance remedied of which officer Cameron complains, that of "extensive" gill-net fishing. Officer Miller, in answering the questions sent him by the Department, displays considerable knowledge of the subject, and I quite agree with many of his views; but I differ with him, however, in part of his answer to question No. 4, where he states that "the present fee of \$5 is high enough for purposes of protection," and that "tug fishing is very injurious."

The \$5 fee encourages persons not engaged in fishing as a regular calling to fish in the fall of the year; and, in my opinion, the tug system is a much more satisfactory one than the sail boat. I might give a few reasons why I uphold it: 1. A tug cannot set upon the shoals in very shallow water, where the majority of salmon trout and whitefish spawn, while the sail boats and fishing smacks can; 2.

With the tug they are enabled to lift the nets regularly, and consequently the fish arrive at market in very good condition, but in cases of unfavourable winds and rough weather the sail boats and fishing smacks cannot reach the grounds upon which their nets are set until the wind and sea moderates. Under these circumstances, the sail boat and fishing smack, operating by the gill-net principle, can not lift regularly, and in too many cases, I regret to say, the fish are brought ashore in a semi-decomposed state and unfit to be eaten. In the event of these fish not being in a condition to be sold fresh, it also encourages salting and putting up large numbers of packages of decayed fish, with the idea of deceiving the buyer and consumer.

Officer Brinkman appears favourable to the use of the pound-net under certain regulations as to localities where they might be set. In regard to the size of the mesh to be allowed for pound-nets, he considers the legal mesh sufficiently large to allow the small fish to escape; but what the legal mesh is at present for pound-nets I am unable to ascertain; but if it is not as large as I have suggested (4-inch pot) I disagree with his opinion, and have every reason to believe I have shown fair reasons in support of the large meshed leads and pots.

Mr. Charles Noble, fish dealer, Killarney, is of the opinion that a limited number of pound-net licenses should be granted in the Georgian Bay; but it is evident, from summing up his report, that he is specially interested in gill-net fishing. In answer to No. 4 he appears to think "it would be utterly impossible to prohibit gill-net fishing now;" and while I am of the opinion that it would be impracticable to do so entirely, still the system could and should be reduced by the plan I have already suggested, together with an enlarged fee for fishing licenses.

W. A. Clarke, an extensive gill-net fish dealer of Collingwood, in stating that in his opinion pound-nets should only be permitted to be set at "exposed places, where the early gales of September and October would blow these nets from their moorings," proves conclusively that he is either unacquainted with the merits of this appliance, or that if he furnished a fair statement of the facts of the case he would damage his own gill-net business. He also states that "the mesh of the gill-net should be $4\frac{1}{2}$ inches, and after eighteen months' notice all net under this size should be confiscated." It may be all very well for Mr. Clarke to make that statement, but as very few (if any) of the Georgian Bay fishermen have carried out the provisions of the law by using the legal mesh of 5 inches, it is not at all likely they would restrict themselves to $4\frac{1}{2}$, as they have been using a smaller size for years, unless the Department insisted upon their local fishery officers enforcing the law more rigidly than the majority of them have in the past.

Mr. C. W. Gauthier, fish dealer, of Windsor and Detroit, in giving his opinion as to what should constitute a fair sized mesh for a pound net states: "lead, 7 inches; pot, 4 inches on three sides, and for the back $3\frac{1}{2}$ inches." In this I agree with him, with the exception of a $3\frac{1}{2}$ inch back, which, in my opinion, is not large enough, and would gill and kill a great number of salmon-trout and whitefish of too small a size to be placed upon the market, whereas if the whole pot was a uniform 4-inch they could escape and mature. I quite agree with Mr. Gauthier's answer to question No. 4 in every particular. There may be considerable force in his suggestions in answer to question No. 5, but I would advise the Department not to set apart any reserves where fishing would be entirely prohibited in deep water during the summer months without the most thorough investigation showing these grounds to be the natural feeding places of the immature salmon-trout and whitefish.

Mr. G. P. McIntosh, fish dealer, of Meaford, who has been in the business for the past twenty-five years, agrees with my views that pound-nets are not so destructive as the gill-nets, and also concurs with my opinion that the immature salmon-trout and whitefish are not to be found in the shallow water along the shores of the main land or islands, but that their feeding grounds are found in the deeper water in the middle of the lake. In all my experience, and from conversation with pound-net fishermen and others, I have never known a small salmon-trout, from 6 to 9 inches long, weighing a quarter or half a pound, to be captured, even in a pound-net,

sufficiently small in the mesh to retain the smallest sized herring; while in the deeper water, where the gill-net is used extensively, I have seen thousands of them caught by their teeth. This statement can be verified by fishermen engaged in gill-net operations, and goes a long way towards upholding the future establishment of the pound-net.

Mr. Joseph Wilson, fishery officer at Sault Ste Marie, is decidedly of the opinion "that pound-net fishing should be allowed in the Georgian Bay and Lake Huron." In answer to No. 2: "What size mesh would you recommend?" he makes a very peculiar statement when he says that "all parts of the pound-net should not be less than 6 inches, extension measure." The average size of the salmon-trout and whitefish in the Georgian Bay and Lake Huron is five pounds, so that a pound-net of this mesh would really not capture anything but the overgrown fish. Mr. Wilson further suggests that "the fee for boat licenses should be increased to \$20, and would prohibit all fishing operations by tugs." I do not agree with these views, and I am convinced that a sudden change from \$5 to \$20 license fee for boats would be unjust, and considered by the fishermen a great hardship.

Overseer Fraser, of Victoria Harbour, suggests "prohibiting forever" pound-net fishing in the Georgian Bay, and states that the "gill-net is the only true way of fishing." From my arguments, it will be noticed that I am decidedly opposed to this officer's opinion, and I am convinced that the Department should not attach much weight to the views of any person who simply asserts, without giving practical reasons in support of their views, especially upon a question that requires the best possible action in order to do away with the very noticeable evils of excessive fishing which at the present threaten to destroy the vast wealth to be derived from the great lakes.

To substantiate my argument in regard to useless information sent to the Department, I wish to call your attention to a portion of Captain Holmes' report of 1888 upon the fisheries of the Georgian Bay and Lake Huron, in which he states that, "from conversation with fishermen of from twenty to forty years' experience I am induced to believe that it would be greatly to the interest of the fisheries and the fishermen were pound-nets entirely prohibited, at least for a term of years; but should this be deemed too abrupt a measure, without one or two years' notice, then I would recommend that the leaders be of 2 or 3-inch mesh, and the hearts not less than $4\frac{1}{2}$ or 5 inches, thus allowing the small fish to escape, instead of destroying everything which comes into the pound." This unreliable information Mr. Holmes has gained from old and established fishermen is most injurious, and leads the Department to have a very mistaken belief. For instance, the 2 or 3-inch mesh for the lead is altogether too small, as it would have the injurious effect of leading the very smallest fish into the pot; whereas, with 6 or 7 inch mesh they would readily escape. The inference to be drawn from his report is, that the pot or pound where the fish are captured and retained is of no importance, as he says nothing in reference to it, when it is decidedly the all-important part of the net for capturing fish.

At the earnest solicitation of a petition gotten up and signed by a large number of gill-net fishermen, your Department was induced to abolish the so-called destructive $2\frac{1}{2}$ inch pound-net; and judging by Mr. Holmes, observations, he is evidently inclined to make it more destructive than ever, by saying nothing about the enlargement of the pot, but suggesting that the leader, which was usually 5 should be reduced to 2 or 3 inches, thus making it impossible for small fish to escape becoming impounded. The size of the pound-net which I advocate is to have the leader 6 inches, with the hearts, tunnel and pot or pound not less than 4 inches. After having reviewed the whole of the correspondence sent me, in the most careful way, I am more thoroughly convinced than ever that, notwithstanding the misrepresentations which have been circulated in regard to the destructive qualities of the pound-net, that, when made of the proper dimensions, it is far less injurious than the gill-net system. I have in all probability studied and investigated the relative merits and demerits of these appliances more than any officer of your Department, and am quite confident that I could substantiate the correctness of my views against any opposition.

To my mind, the regulation of the fisheries of the great lakes is one of the most important questions with which the Department has had to deal for many years.

It must be acknowledged that by the present exhaustive gill-net system that these valuable fisheries are being rapidly destroyed, and unless some remedial measures are adopted and stringently enforced it is only a question of a few years until this source of wealth to our people is entirely swept away; and to effect this object I would respectfully suggest the adoption of the following regulations, which could be enforced if considered advisable:—

1st. The close season for salmon-trout and whitefish to extend from 15th of October to 1st of January.

2nd. That $4\frac{1}{2}$ inches be the regulation mesh for gill-nets capturing salmon-trout and whitefish.

When asked by the Minister in Ottawa last winter, I suggested $4\frac{1}{2}$ inch mesh; but since looking into this matter thoroughly, I am convinced that $4\frac{1}{4}$ is the fair and proper standard.

3rd. That the present number of yards of net allowed for boat and tug licenses be strictly enforced.

4th. That boat licenses be raised to \$10 and tugs \$30.

5th. That fishermen be compelled to bring ashore all decayed and useless fish and fish offal, instead of polluting and destroying the grounds with it; or, in my opinion, the only true way to avoid this ruinous practice, which, without a doubt, destroys important fishing grounds, would be to impose a heavy fine upon fishermen who gut and clean their fish while returning from their nets to their points of shipment.

6th. That no license be granted to persons other than those who make an exclusive business of fishing. The idea is, that such action would do away with unfair competition from parties who fish for only a month in the fall when the fish are easily captured in the act of spawning.

7th. That certain grounds be set aside for natural and artificial propagation, and that a fish hatchery be established at Wiarton, or some other convenient and suitable point on the Georgian Bay.

8th. That a limited number of pound-nets be allowed to be used for the Georgian Bay and Lake Huron.

9th. That the legal mesh for the leaders be 6 inches; tunnel hearts and pot or pound not less than 4 inches.

10th. That the lead shall not extend more than a quarter of a mile.

11th. That only one net in a locality be permitted, and that the present system of setting several pound nets attached to one leader in consecutive order be strictly forbidden.

12th. That care be taken to prohibit the setting of pound or gill-nets at the mouths of rivers and entrances of bays, in such a way as to obstruct the passage of the fish.

13th. That fishery officers be compelled to enforce the provisions of the law, and that all licensed fishermen be supplied with a tag or check, to be produced when demanded by the officer.

Before closing this report I beg to call your attention to the fact that in former years wholesale fish dealers, with moderate capital, were stationed at different points, such as Collingwood, Meaford, Owen Sound and other places, and purchased from time to time the fish brought to market by the fishermen of Georgian Bay; but I regret to say that an extensive Fish Company, composed of American capitalists, have bought or squeezed out all the local dealers, and now have a complete monopoly of the fish caught in these waters. The Canadian fish dealers have to pay three-quarters of a cent per pound upon salmon-trout and whitefish shipped to the United States, while the American fish Companies can ship fish caught in the Canadian waters to that country without any exaction of this kind. This means a heavy discrimination against Canadian fish dealers, and makes it almost impossible

for them to compete against American firms. I would suggest that the Department look into this matter, and ascertain the true facts, with a view to remedying this state of affairs, which is not only depleting our waters, but usurping the rights and privileges of *bona fide* Canadian fishermen.

Under these circumstance, would it not be a move in the right direction to fix an export duty upon fish caught in the Canadian waters and shipped to the United States by American dealers? If nothing of a more retaliatory character were arranged, this would at least place the Canadian dealer upon a fair footing with his American competitor. As the Georgian Bay is the main source of fish-food for the Province of Ontario, and the Buffalo fish monopoly now have complete control of it, it is only reasonable to assume—in fact, the present aspect indicates that Canadians will only be enable to secure supplies of salmon-trout and whitefish at a very high market price, and only then when there is an over supply for the American trade.

In conversation with interested fishermen at various points, and in the vicinity of Wiarton (the main export depot of the American Fish Company), I find that considerable dissatisfaction exists among Canadian fishermen on account of the privileges which these American Capitalists have usurped, and which they claim must soon drive Canadians out of the trade of exporting fish altogether.

I have the honour to be, Sir,

Your obedient servant,

CHARLES WILMOT.

APPENDIX No. 7.

THE CANADIAN HERRING INDUSTRY.

(a.) Special reports on raising the standard, by :

- I. Mr. A. C. Bertram, Inspector of Fisheries, District No. 1, Nova Scotia.
- II. Mr. Robert Hockin, Inspector of Fisheries, District No. 2 do
- III. Mr. J. R. Kinney, Inspector of Fisheries, District No. 3 do
- IV. Mr. J. H. Pratt, Inspector of Fisheries, District No. 1, New Brunswick.
- V. Mr. Edward Hackett, Inspector of Fisheries, Province of Prince Edward Island.

(b.) Extracts from various sources on the question of packing and curing fish.

(c.) Comparison of inspection laws affecting fish and fish oils.

I

NORTH SYDNEY, C. B., 31st October, 1890.

To the Honourable

CHARLES H. TUPPER, Minister of Marine and Fisheries,
Ottawa.

SIR,—In accordance with your instructions of the 8th of September, No. 2672-90, I have carefully gone over the "copy of an abstract of the various suggestions and recommendations made to your Department with regard to the sea and fresh-water herring industry of Canada and the best means of raising its standard."

I have made enquiries and consulted with several in my district who are qualified to give an intelligent opinion on the subject. I shall deal with each of the subjects under their respective heads as is done in the abstract.

HERRING.

I may say at the outset that we by the sea know little or nothing of fresh-water herring and have no idea that they should be treated in the same way as our sea herring. Any remarks or recommendations I shall make refer alone to the herring frequenting the waters surrounding Cape Breton. Of these, we have three distinct kinds or varieties: 1st. The "spring run," so called because caught in our waters in the early season in the latter part of April and in May—a small and lean kind, only used for bait, some fresh, but the bulk salted down for lobster and mackerel bait; 2nd. "The summer run," caught in the latter part of June, in July, and sometimes running into August—a large, fat herring, which, when well cured, there are no herring richer in quality or sweeter to the taste; 3rd. The "fall run," caught in September—as large in size but not nearly so fat or delicate as the summer or July herring, but of fair quality.

These three kinds being different, the one from the other, it will readily be seen that no one certain system of cure will suit all three, and that methods suitable to the kind, season and quality must be adopted to produce the most satisfactory results.

Our spring herring have little commercial value, and, for the purpose of your enquiry, may be dismissed from consideration, with simply saying that some restrictive measure or regulation should be adopted to prevent the wholesale destruction of these fish, as is sometimes done when they "strike in" in large quantities and they are used for manuring land.

The question of raising the standard of our summer herring is one of lasting importance to the country, and the attention and consideration given the subject by your Department is in every way praiseworthy, and must be fraught with great advantage to this fishing industry. That this fish is greatly undervalued is best known to those who have been fortunate enough to taste some thoroughly cured Cape Breton summer herring, and it is too much to be feared that this low estimation is largely due to the causes of which the Montreal Board of Trade complain—"bad preparation and fraud practised on the trade." Most emphatically it is not due, as Mr. Gunn seems to intimate, to the "inferior quality" of the fish. I have not in the slightest degree overdrawn in describing the good qualities of our summer herring. I firmly believe that if the fishermen of this coast could be induced to give better attention to the curing of their catches of herring and could successfully place them on the markets of the country in thoroughly good order, after carefully culling and properly grading the different kinds, the result in increasing the public appreciation of this article of food would prove highly satisfactory and remunerative. These remarks will apply with equal force to the September herring, but as they are caught at a time of year when they are not so liable to spoil, the same amount of care in curing is not expected.

CURING.

The delegates to Scotland strongly favour the Scotch method of curing; but I find very few of our fishermen, whose opinions are entitled to weight and consideration, agree with them in applying that method or system to our summer herring. These are delicate and sensitive to the influence of the sun and our summer heat—they are, you will observe, caught in our hottest season—when exposed thereto for even a few minutes. Any damage done them at this stage cannot by any possible attention thereafter be overcome. This, however, does not, as I have already pointed out, apply to our fall or September herring, and I am fully of opinion that the Scotch method of curing applied to these latter would be quite the best that could be pursued by our fishermen, and calculated to bring about the best results.

With our summer herring, there is no question that the best results have been attained by first after taking the fish out of net, carefully covering and protecting them from the rays of the sun, getting them ashore and under a covered and cool place as quickly as possible, gibbing, splitting them up the bellies and scraping the blood from their backs with a knife rounded like a small table knife, and washing, but not allowing to soak, in sea water frequently changed. It would be a great improvement if this water could be kept cool by lumps of ice—indeed, it would be a most decided improvement, if when taken out of the net and covered, preparatory to taking them in, lumps of ice could be thrown on them and under the covering. They should at once be carefully packed in barrels well soaked in water and tested to the light, first filling their bellies with salt and laying them on their backs, head and tail in circular form, as preferred, and scattering a little salt over each layer about the stave especially. Enough salt will adhere to their backs to preserve them until the brine or pickle runs around them. It is a mistake to say our fat summer herring are injured or lose their flavour by over-salting. Liverpool salt is what is chiefly used around the east and southern shores of Cape Breton. If they could be induced to use Trapani or St. Martin's salt I am strongly of opinion that an improvement in the curing of herring would result.

BARRELS.

In view of the unqualified conclusion of the Montreal Board of Trade, already quoted, it is, I think, simple justice to those engaged in this arduous occupation to say that one of the chief factors in depreciating herring is found in the barrels being constructed of wood so thin and hooped so unsecurely that they are not able to stand the "rough and tumble" they are subjected to in transit by road, boat and rail. Our fish must eventually find its best markets in the western and prairie Provinces, and to place herring in those distant markets we must, I believe, put them up in barrels

made of the harder kinds of wood—at least, the large packages, such as 200 lbs. It will I fear, be difficult to get the fishermen to adopt the hardwood barrel. The price generally paid for 200 lbs. of herring put up and barreled is about \$4 to \$4.50; and at \$1 for the barrel, with the cost of salt, it will be seen that one-third of the price received goes to cover salt and barrel. Unless it can be fully proven that the price this fish will realize so put up will more than pay for the increased cost of the hardwood barrels I see no way of overcoming the objection Mr. Bauset seems to anticipate.

INSPECTION.

I fully concur in the opinion expressed by the Montreal Board of Trade, that “the repeal of compulsory inspection was a step in the wrong direction.” Inspection should be done on the spot, and not in cities, where it cannot be done without damage to the fish and increased cost to the packer. With due care in selecting properly qualified inspectors, stringent regulations and penalties adopted, in which the responsibility of the inspectors should not be overlooked, to prevent packing unsound with sound herring, and making the fees low, I do not see why a very decided improvement in their preparation should not be noticeable, and think it well worth a trial.

GENERAL REMARKS.

I do not think it out of place to observe that, in my opinion, another cause of the bad preparation of our herring may be traced to the fact that in nearly every instance each fisherman packs and cures his own catch. In this way we have many methods or ways of packing, and as the fisherman fancies his responsibility ceases when he gets them off his hands he is rather anxious than otherwise to palm off an unsound fish when he can. On the other hand, if we can have large quantities put up by regular curers those latter would have a personal interest in getting a reputation for putting up superior stock.

I should exceedingly like that the suggestion made by Mr. Gunn, respecting a trial of the methods of curing and barrels, recommended with reference to lake or fresh-water herring, be tried in its fullest sense with our sea herring. If this were done, and they were then sent to Industrial and Agricultural Exhibitions in the western Provinces, I am quite confident the fine qualities of our herring would receive such favourable notice that it would prove a valuable incentive to our fishermen to strive and raise the standard of their products.

I have the honour to be, Sir,

Your obedient servant,

A. C. BERTRAM,

Inspector of Fisheries.

II

PICOU, 31st December, 1890.

The Honourable

CHARLES H. TUPPER, Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with circular No. 2,672 upon the herring fishery, I have the honour to report.

The points raised in this circular are: 1st. The general decline in the herring fishery; 2nd. A compulsory inspection of fish; 3rd. Inspection of packages.

To the herring trade of Nova Scotia there are known two distinct grades of fish—one caught in July, and always distinguished as July herring, which is a very superior fish, unsurpassed by any other; but it is said that there are degrees of

excellence even in these—that herring taken in July from Cape North and Louisburg are larger and fuller than those taken from Louisburg to Halifax, which again excel in quality those taken between Halifax and Sable Island.

All other herring than the July fish are classed as inferior fish, being lean or spent fish, and the only market for them being the West Indies, where they are consumed by the negroes, and because of their being devoid of fat they keep in the hot climate.

It is said that those fish of this quality which are shipped to Boston ultimately find their way to the West Indies.

A large business is done in this poorer herring, the price averaging about \$3,00 per barrel, while that of July herring averages about \$5, being no less than the same fish brought fifteen years ago.

The decline in the volume of trade is owing to the fact that fewer fish are taken now than formerly; firms in Halifax which formerly handled 10,000 barrels do not ship 1,000 now—they are not to be had. With the decline in the quantity there is perhaps no corresponding increase in price, because it is suggested that owing to the general prosperity of the country people live better than they did under the régime of free trade, and more expensive and presumably more substantial and palatable food is consumed in preference; perhaps also for the reason that the price is not very remunerative the fishery is not prosecuted with vigour, the mackerel fishery offering greater rewards. Upon the question of compulsory inspection of herring, the Halifax Board of Trade, on 25th April, 1890, considered certain propositions, which I believe were prepared by Messrs. Henry Hart and Charles Creed, advocating a compulsory inspection of herring and submitting a standard.

“A” No. 1 to be 11 inches and upwards.

“B” No. 2 do 9 inches to 11 inches.

“C” No. 3 do under 9 inches.

I wish to suggest that such a standard would be far from indicating the value of the fish, and that a July herring 11 inches and a fall herring 11 inches are very different articles.

I found in Halifax, among the merchants I consulted, a decided opinion against inspection of fish being compulsory.

Mr. A. W. Smith says he has met more fraud under inspection than can be without. He is a large dealer in fish; they inspect their own, and can do it much more cheaply and to their own satisfaction than possible with official inspection. They brand the fish as packers; their brand is accepted as reliable, and every thing is satisfactory.

To inspect fish and brand the quality sold to the West Indies as No. 3 fish would be injurious to the trade; for, as a matter of fact, they are No. 1 fish for that particular trade.

The Messrs. Hart & Co., West Indies, and fish merchants, also do not favour compulsory inspection. Both Messrs. Hart and Smith propose as a substitute, that packers be required to brand their own names upon the packages.

Mr. D. F. Power does not favour a compulsory inspection of fish; but all of the foregoing are decidedly in favour of an improvement in the packages.

The Inspector of Fish for the city of Halifax has occupied that position for a number of years, appoints his own deputies and imposes fines upon them for dereliction of duty.

This inspection meets with approval and is relied upon. Merchants willing to guarantee fish that have passed a city inspection would not do so upon an inspection outside of the city.

This inspector is of opinion that there should be compulsory inspection, and especially so of packages.

Regarding the kind of wood for packages: Pine is not used for fish barrels, and hardwood is impracticable being much too expensive. What is wanted for fish

is a barrel of $\frac{3}{4}$ -inch staves, with sixteen hoops; hoops to be not less than $1\frac{1}{2}$ inches at the smallest part. Wood for staves should be seasoned, and made of larch or spruce, free from sap.

Cheap fish are now packed in barrels, with staves in some instances not exceeding $\frac{1}{2}$ inch.

The inspector is of opinion that if a reliable inspection could be had it would soon make itself compulsory, because the trade would only handle first-class goods that had been inspected.

If some device could be secured that would give sufficient distinctness to inspected fish—say, for instance, require them to be stamped in large letters “Officially inspected,” and the name of the inspector to be branded; have the barrel staves, where not covered with hoops, painted—say blue. Then buyers would soon learn the value of the inspection, if it had a value.

The law would, of course, have to make it so far compulsory that no fish should be branded or stencilled as No. 1 Prime Fish, Crown Prime, &c., except as done officially.

This, it would appear, would be elastic enough to allow sufficient freedom for a trade to be done in unbranded fish, and at the same time the public would soon learn the value of inspection.

I would further suggest that, in addition to requiring that each packer of fish brand his own name on it, that imported herring should be branded with the name of the place from whence they come. Newfoundland herring is an inferior fish, and should be branded “Newfoundland herring.”

I have the honour to be, Sir,

Your obedient servant,

ROBERT HOCKIN,

Inspector of Fisheries.

III

YARMOUTH, N. S., 1st December, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with circular *re* herring trade, I have to say that the manner and mode of taking and curing herring, and marketing the same, which prevail in this district, are of such a nature that I cannot conceive of any legal enactment which would be of benefit or profit either to the producer, buyer or consumer.

The writer was prominent in inaugurating the movement for amending the inspection laws, to the extent of making the inspection of herring optional. The reasons given at that time were formed upon the basis of a quarter of a century of contact with the producer, and nearly a like time as a dealer in the article under review.

Herrings are taken in western Nova Scotia by small boats, often manned by a single man, and rarely more than three. The fish are cured in small quantities and packed to suit the purchaser, who is the trader buying to ship to the West Indies and United States, in neither of which countries are any marks of quality or inspection noticed, the fish being sold solely upon their merits, upon being opened and examined.

I can readily understand that in some parts of Canada, where fish are taken in large quantities and packed for sale in other countries than those I mention, the same rule as to packing, &c., does not apply. For instance, herring, I understand, are

sold in Montreal and Quebec upon the merits or demerits of their brand, in which case it might become needful that some legal significance should be attached to the marks; but, as I have stated, there is no necessity for any change in the present regulations, so far as this district is interested.

I have the honour to be, Sir,
Your obedient servant,
J. R. KINNEY,
Inspector of Fisheries.

IV

DOMINION S.S. "DREAM,"

St. Andrew's, N.B., 31st October, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In reply to your letter of the 8th ult. (No. 2672-90), including copy of an abstract of the suggestions and recommendations made to your Department regarding the herring industry of Canada, and requesting from me a report on this subject, after making enquiries among those persons best qualified to give an opinion I beg to report as follows:—

I have made, as directed, every possible enquiry among fishermen and dealers engaged in the herring industry, and as taking and curing this fish form one of the principal occupations for the inhabitants of this division it is therefore a subject on which they can speak intelligently. Of course, the sardine and smoked herring industry supplies remunerative employment to a large number of fishermen the greater part of the year, but nearly all of them owning schooners fit them out about September, when the schools of large fall herring strike our shores, and begin netting them for pickling purposes.

A large fleet of schooners each autumn moor in Three Island Harbour, Grand Manan, and set their nets in the surrounding waters. About forty schooners are anchored there and in its vicinity at the present time, and as pickled herring commands a good price, and the catch being good, our fishermen will be enabled to make a good fall's work.

I write the foregoing to show how important this herring industry is to the fishermen of the Bay of Fundy, and what an immense quantity of fish are taken and packed by them during a season.

Among this fleet there are many old, experienced fishermen, who have nothing to learn in reference to the correct method of curing and packing herring, and who put up their catch in a first-class manner. But there are others again who will not exercise any care, and seem to make it a point to put up as large a quantity as possible, without the slightest regard to quality. They are well aware that without a compulsory inspection law they can command as good a price for their catch as their neighbour who puts up good fish.

The decrease in the demand for pickled herring is attributed by many, and it is also my opinion, to the careless methods pursued by many fishermen in curing and packing their catch. Although they are well aware that by placing badly cured fish on the market the confidence of the buyer will be destroyed, still there are many who yet pursue these careless practices, well aware of the results, which cannot be otherwise than detrimental to their own interests.

In regard to the question of barrels, the kind used altogether in this division are made of spruce, with pine heads. None are made or used here with pine staves.

Opinion among the fishermen and dealers is in favour of spruce barrels being continued in use and no compulsory change made to hardwood barrels. I do not find much complaint regarding spruce barrels; they seem to answer their intended

purpose, if proper care is exercised in their construction. Where the half-barrel now costs 35 or 40 cents and the barrel 60 or 65 cents, they feel that an increase to 75 cents and \$1 for a half-barrel would be an injury instead of a benefit to them, and they do not believe the price would increase to correspond with the increased cost of the barrel.

I would not therefore recommend a compulsory change in the matter of barrels at the present time, trusting to the good sense of our fishermen to use none but good ones, and the judgment of the inspector in examining all barrels thoroughly.

In reference to the subject of curing herring, the fishermen of these waters believe that they fully understand the proper method to be pursued in curing and packing herring, and from what I have seen I am firmly of the same opinion. If they do not practice the best method it is not because they are ignorant of it.

The method employed by them to put up good fish is, to "gib" the herring as soon as possible after being taken from the nets, and with a very little washing (if any), in order to clean the blood off them, pack in barrels, with a generous supply of salt, especial attention being paid to having the bellies of fish well filled with salt. A slight cut is made in the fish near the back-bone, to enable the salt to penetrate in that vicinity.

They are afterwards re-packed in new salt, when the old pickle, which is discoloured by the blood, is removed, and new pickle made and poured over the fish. After being headed up, they are ready for shipping to market.

INSPECTION.

The matter of inspection of herring is a subject in which all fishermen take a sound interest, and all I have conversed with on the subject, together with many fish dealers, believe that a compulsory inspection law cannot be adopted too soon. To ensure proper inspection, I think it would be advisable to have it done at the several fishing villages near the fishing grounds, a reliable, practical fisherman to be appointed as inspector in each village, who will thus be personally acquainted with each fisherman, and will therefore know who puts up good or bad fish. This knowledge will assist him materially when the fish come before him for inspection. It is also my opinion that the fees should be light, and be borne by the curer. As fishery matters are at present in these waters, the fisherman finds that after catching his herring, instead of using his time boating his fish to somebody else to pack, or to a factory, it is to his interest to cure and pack the fish himself, and he can; if required by an inspector, put them up just as well as can be done at a factory.

Mr. Gunn's recommendation, that a number of barrels of pickled fish of a different kind, each packed in a different kind of barrel, and to be stored at Ottawa for a time, is in my opinion a good one, and should be carried out, in order that the question whether the wood composing the barrel affects the flavour of the fish or not should be settled. I find that our fishermen are not aware if fish take up any flavour from the wood composing the package.

Trusting the foregoing will be satisfactory.

I have the honour to be, Sir,

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries.

V

TIGNISH, P.E.I., 12th November, 1890.

The Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to acknowledge receipt of your letter of 8th September, accompanying certain recommendations made to the Department with regard to the herring industry of Canada and the best means of raising its standard. As directed, I consulted with persons engaged in the fishing industry in all parts of this Province, and whose long experience qualified them to give an opinion on the subject. The general opinion, as expressed to me, was, that the decline of the herring industry was mainly due to the careless manner in which the curing and packing was done by those engaged in the business, who as a rule, make the herring fishing subsidiary to other branches of the fishing industry, and consequently do not give it proper attention.

The result has been an inferior article, scarcely fit for food, and which the consumers will not use while they can obtain other kinds of fish. To raise the standard of Canadian herrings will require a decided change in the mode of handling the fish, from the time they are taken out of the water until placed on the market for sale as a finished article. At present the curing and packing are done in a very careless and imperfect manner.

The fish, when taken from the nets, are allowed to remain a considerable time before being gutted; no salt is thrown among them at this period, and many of them are spoiled before the gutting takes place. After being gutted they are thrown into barrels and salted, no attempt being made to separate and remove the injured and broken fish, or to sufficiently "roose" them with salt before placing them in the barrels. Then after being covered with pickle and the barrels coopered in an imperfect way they are considered ready for sale. A system of this kind pursued with regard to any commodity must result in lowering its value, and it is not surprising that a decline has taken place in the herring industry.

In referring to the different parts of the process of curing and packing, I beg to take them in the following order:—

CURING WHEN TAKEN FROM NETS.

This is the most important stage through which the pickled herring passes in preparing it for consumption. Any neglect at this time will result in making an inferior article, and no subsequent use of salt or pickle can restore the loss. When the fish are taken from the nets they should be gutted with all possible speed. If any time is allowed to elapse between the landing and gutting, salt should be strewn in liberal quantities over the fish, which will have the effect of hardening them, thus preventing heating or tainting. The gutting should be done by skilful and experienced operators, who would be able to perform their part of the work with rapidity and dispatch. After passing the gutting process the fish should be placed in troughs or tubs, where they could be effectually "roosed" with salt before being packed. They should then be packed in layers in good barrels, a sufficient quantity of salt being sprinkled between each layer of fish, and in warm weather it is a wise precaution to place a little salt in the belly of each herring at the time of packing. There is considerable diversity of opinion with regard to the quantity of salt necessary to properly cure a barrel of herring, some holding that one and a-half bushels are required, while others contend that one bushel is sufficient.

My opinion is, that one bushel of salt is sufficient to cure a barrel of herrings, and that Liverpool salt of good strength is the best, as it will strike the fish more quickly than salt of a coarser grade.

Too much salt should not be used, as it has the effect of drying up the fish and rendering it tasteless. Washing before salting, so extensively practised by Canadian

curers, should be prohibited, as it injuriously affects the quality of the fish. As the fish settle down in the barrel more should be added from day to day until the barrel is thoroughly filled and ready for coopering. The cooper should examine the barrels carefully each morning, and see that all are perfectly tight and full of pickle.

While this process is going on the fish should be kept as much as possible from exposure to the weather, and the barrels, when completely packed, should be covered and kept from the sun and rain.

BARRELS.

The herring barrel should be a strong, substantial package, made of good, sound wood, and bound with the best quality of ash hoops. I notice what is stated in the recommendations with regard to substituting hardwood for softwood barrels, as at present used. There is no doubt but barrels made of pine, fir or cedar are not suitable for packing herring.

Barrels made of those kinds of wood are generally of a poor class, most difficult to tighten properly and will not stand the rough handling to which they are subjected in course of transportation. I am of opinion, however, that a good spruce barrel, properly made and bound with ash hoops, would be found sufficient to answer all purposes in the herring industry.

Barrels of this kind would be very strong, are easily tightened, and calculated to stand a great deal of handling.

The material for making them could be readily procured in the Maritime Provinces, and the cost would not exceed \$1 each.

The undersigned was for many years engaged in the fishing industry in this Province, and has exported thousands of barrels of mackerel (a much more delicate and valuable fish than herring) by railway and steamboat to the American markets, and never met with any serious loss from breakage or leakage, and did not hear any complaints that the wood imparted a foreign taste to the fish.

The barrels used in this business are made of spruce, and I am fully convinced that such barrels would be found suitable for packing the best quality of herrings.

Hardwood barrels would be expensive, and I fear that any regulation compelling their use would be oppressive, and, instead of stimulating, would rather restrict the industry.

INSPECTION.

On the subject of inspection a great deal of difference of opinion exists. There are numbers of men of long experience who state that compulsory inspection is of no benefit to the trade, that the fish are sold on their merits, and that compelling a packer to pay a fee for the use of a brand that is of no service is a great hardship. With this view I cannot agree. My opinion is that there should be a strict inspection of pickled herring within Canada, that this inspection should be compulsory and that all packers and dealers be compelled to bring their fish up to a given standard. Herrings packed in the country could be inspected at the curing houses before being offered for sale, while on importations from abroad the inspection might be made at the port of entry. The inspectors should be competent men, having a thorough knowledge of the industry, and should be required to give bonds for the faithful discharge of their duties.

Proper standards should be established, and no person allowed to deal in an article not up to the required grade.

A system of this kind would have a great effect in restoring confidence in the trade, as the brand affixed would to some extent be a guarantee that the article was as represented, and would undoubtedly materially assist in raising the standard of the herring industry in Canada.

I have the honour to be, Sir,

Your obedient servant,

EDWARD HACKETT,

Inspector of Fisheries

EXTRACTS FROM VARIOUS SOURCES ON THE QUESTION OF PACKING
AND CURING OF FISH.

Rev. John Ambrose, on Margaret's Bay fishing grounds, in "Proceedings and Transactions of the Nova Scotian Institute of Natural Science, 1866-67, Vol 2, part 1.

* * * * *

"One remark, however, I may venture with reference to the barrels in which our Nova Scotia herrings are too frequently packed. They are not only defective in material but faulty in size, for many of them are too large, so that the fish working loose, become softened and spoil in long voyages to warm climates.

"A good system of inspection of both fish and packages is a great desideratum in this Province. A Chief Inspector, thoroughly competent to teach our fishermen the best and most improved systems of catching and curing fish, would prove a very valuable officer, if possessed of zeal and tact. His salary should be paid out of the public revenue, and not by the fishermen, who would also be expected to pay the deputy inspectors (page 76.)

* * * * *

"A very considerable proportion of the catch of mackerel is annually lost to the Province by the very careless method of curing and packing too frequently followed on our shores. In the first place they are often left too long exposed to the sun and air before salting, and for this cause many barrels of Nova Scotia mackerel are every year condemned in foreign markets. Another evil is the insufficiency of the barrels used by too many fishermen. Two hundred pounds of No. 1 fish, worth from \$12 to \$15, and sometimes even \$20, are too often packed into a barrel costing 25 or 30 cents, made of knotty and unseasoned stuff, and therefore dear even at that price. These barrels bear no rough handling, soon shrink and lose the pickle, the contents are spoiled, and the character of our fish is depreciated in comparison with those of other countries (page 74.)

* * * * *

"If the proposed negotiations with Brazil and other Roman Catholic countries should open up new markets to our staple products, a great deal has yet to be learned by our shore and Labrador fishermen in the way of curing fish for such markets; for that which has been tolerated among the negroes of the Southern States and the West Indies will not tempt the fastidious palates of the more civilized people, with whom we soon hope to trade. Time forbids my entering on the superior mode of curing cod, hake, haddock and pollock practised by the leading Jersey houses, which gives them a decided advantage over us in the fish trade," (pp: 42 & 43.)

* * * * *

Report of United States Commission of Fish and Fisheries, 1886, part 14, p. 155:—

"The preparation of fish for the market has also been the subject of legislation. Many nations which pay no particular regard to the times, places, and circumstances of the sea fisheries have considered it expedient to secure the interest of the purchaser by regulating and restricting the mode of preparation and packing, this being the case, perhaps, more especially in the Scandinavian countries and Holland than elsewhere. The herring fishery in Holland was formerly kept, in all of its stages, under the control of the Government, although of late years this is more particularly confined to the packing and inspection."

Quebec Board of Trade, 22nd February, 1865:—

“OFFICE OF THE QUEBEC BOARD OF TRADE,
“QUEBEC, 22nd February, 1865.

“EXTRACT from a report by a sub-committee appointed to examine into the provisions of the Bill M, “An Act to make better provisions for the official inspection of Fish and Fish Oils,” received and adopted by the Council this day:

“Your Committee recommend that the Council oppose the inspection or culling of dried or green codfish in bulk. From the nature of the business it would not be possible to provide inspectors on the coast in sufficient numbers to perform the service—nor, if performed, would it be of any use, inasmuch as the fish could not be identified. A system of this kind would prove a hindrance to the fishermen, and of no utility, except for statistical purposes, for which other and more suitable measures can be devised.”

“Certified correct.

“A. FRASER.”

Report of the Department of Marine and Fisheries for the year ending 30th June, 1871. Report of the Honourable Peter Mitchell page 64:—

“The voluntary system which at present exists does not either prevent the frauds practised in curing and packing fish nor enhance the value of the produce of our fisheries in foreign or home markets. Complaints are rife of the vexatious impositions and losses to which purchasers of pickled fish are now exposed and of the consequent depreciation of the character and price of this commodity throughout the agricultural districts and amongst the population of the interior especially. The Department has received from various quarters urgent representations on this subject. It is still under consideration, but although unprepared as yet to suggest legislation, I hope soon to be in a position to submit to the Government a measure on the subject which may prove acceptable to the fishermen and to the trade, and also beneficial to consumers.”

“To the Honourable
“The Minister of Marine and Fisheries.”

Report of the Department of Marine and Fisheries for, the year ended 30th June, 1872. Report of Hon. P. Mitchell, page 62:—

Inspection of Fish and Fish Oils.

Government propose to include in consolidation of inspection laws a scheme to ensure proper curing and packing of fish and fish-oils. An Inspection Bill is intended to be submitted to Parliament, amending and consolidating the existing Provincial Acts *re* inspection of certain staples of Canadian produce; also extending the measure to the whole Dominion of Canada, and including the produce of the fisheries in its provisions. This Act will embody the system contemplated in my remarks on the subject in the last Annual Report. Nothing has been done for the official inspection of fish and fish-oil under the existing laws. Frauds practised in curing fish still continue, and no efforts have been made to enhance the value of our fisheries in the markets. Complaints are prevalent of the impositions practised and the losses to which purchasers of pickled fish are put, and urgent representations have been received by the Department on this matter. After the failure of the voluntary system, after so long and fair a trial, it appears very desirable to try the experiment of a compulsory one.”

Letter from Mr. Alfred Ogden :—

“OTTAWA, 7th June, 1889.

“SIR,—At your request I now give you my opinion upon an industry which is of importance to a large number of the citizens of Canada and could be made much more valuable. I have spent nearly all of my life among fishermen, and have for over thirty years been engaged in the catching and the curing of fish. Although the herring fishing industry, according to the reports of your Department, stands but fourth, and the present prices are very low, yet with a little care and attention it could be made to assume much greater proportions.

In the Maritime Provinces herrings are now packed in barrels made of soft wood (except the bungstave), with wooden hoops, in the same manner as they were half a century ago, when they were carried to market by water in sailing ships and carefully handled. Now, being carried chiefly by rail and steamships and subject to rougher handling, the chimes of the barrels are frequently broken and the hoops separated; consequently, the pickle leaks out and the fish become dry and rusty and unfit for food. This is perhaps the chief cause of the deterioration in the value of and the demand for sea herrings in the markets of the Upper Provinces of the Dominion. More care should certainly be taken in packing these fish for shipment. The blood should be thoroughly soaked and washed out, and care should be taken to put enough salt in the barrels to save them. They should be packed in barrels bound especially around the chimes with iron hoops; the fish would thus reach the markets in proper condition, and, once their reputation was established, would command a much higher price, besides being in greater demand than at present, which would more than recoup the extra cost of more careful cleaning and the using of iron hoops on the barrels.

“Wooden-bound barrels suit tolerably well when for one direct shipping; but transhipped and handled roughly once or oftener, they are very liable to become damaged, as before stated.

“I was entrusted with the duty of collecting and re-packing about all of the commercial samples of dry and pickled fish that were exhibited at the Great International Fisheries Exhibition held in London, England, in 1883, which were sent from Ontario and Nova Scotia. I took great care in packing the pickled fish in good substantial, iron-bound barrels, and I was pleased to learn from the Hon. A. W. McLelan (then Minister of Marine and Fisheries) that these fish were superior in quality to any others shown at that exhibition.

“I extract from the report of Department of Fisheries, 1884 (Preliminary), page 27, the following, referring to dried as well as pickled fish, which were entrusted to my supervision :—

“Dried Fish.—This exhibit consisted of codfish, haddock, capelin, boneless cod and hake, cod, sturgeon and hake sounds, &c., &c. The samples were shown in large glass cases, and the cod especially, for soundness, preservation of colour, taste, &c., were not equalled by any in the exhibition. Whilst other countries had to replace or supplement their stock from time to time, on account of deterioration in the damp atmosphere of London, the samples from Canada remained unchanged and uninjured during the whole exhibition. For this class of exhibits the highest awards and three gold medals were given. It is believed that considerable trade will yet spring up between Canada and fish markets of England from the introduction of our staple fish through the channel of the Fisheries Exhibition. Inquiries have already been made by reliable English houses for consignment of our dried, pickled and canned fish.

“Pickled Fish.—The samples of pickled fish were numerous, of great variety well preserved, and were put up in barrels, half-barrels, kits or boxes. The wooden heads of the packages were taken out and glass ones substituted, so the whole exhibit was ever open to the public for inspection. The samples of this exhibit, from almost every Province of the Dominion, consisted of herring, mackerel, haddock, shad, salmon, trout, whitefish, eels, tongues and sounds, &c. These fish all

kept well, as they were intentionally salted somewhat heavier than if they were to be placed at once on the markets, and received most favourable notice, not only from reliable fishmongers and practical fishermen, who frequently inspected them, but also from the jurors, who awarded the exhibit three gold medals, three silver medals and two diplomas of honour.'

"Our fishermen are not slow to adopt any new mode or style of curing and packing fish, if it can be shown to them to be of any advantage, or that any benefit can thereby be derived.

"I may say I understand not only the catching and curing of herring, but also packing as well, and I feel confident that if the fishermen of our country could be taught that it is to their interest to give more time and expense to the curing and packing of these fish the result would not only reward them, but be of great service to our export trade.

"I have the honour to be, Sir,

"Your obedient servant,

"ALFRED OGDEN "

"The Honourable C. H. TUPPER,

"Minister of Marine and Fisheries,

"Ottawa."

From a letter from Mr. John A. Boak, St. Paul, Minn., 4th March, 1890.

"I am in receipt of your favour of 28th ult., and am obliged for the reports.

"It will give me great pleasure to give your Department my views on same. My company import upwards of a thousand barrels of herrings from Norway annually, and about ten thousand kegs of herrings from Holland, besides those we get from Nova Scotia and Newfoundland.

"I have for the past ten years tried to impress on the Nova Scotia shippers the necessity of using better packages and packing their fish full (200 lbs.) two hundred pounds to the barrel but without success.

"I have yet to find the first barrel of sour Norway herring, but regret to say that we scarcely ever receive a shipment from Canada but we find more or less sour and rusty fish.

"We have repeatedly made claims for allowance for such goods, but have invariably had the same reply: the goods were inspected by a Government inspector, and we cannot make any allowance."

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Report on the Cure of Codfish and Herrings, by Adolph Nielsen, Superintendent of Newfoundland Fisheries, 1890.

THE CURE OF HERRING IN EUROPE.

* * * * *

"If too much salt or too strong pickle is employed, the flesh of the herring will after a short time become hard and dry, and will be deprived of its real good and natural flavour. The less salt and the weaker pickle can be used the longer and better it will retain its nice flavour; but on the other hand, if sufficient salt and proper pickle is not employed, the herring will get tainted, and not fit for human food. The art of curing herring as well as other fish with salt depends mainly upon knowledge of what quantity really the different kinds of herring take in different seasons, and what quantity of salt is required to preserve the herrings for the various markets, and in different ways they are to be treated for such markets.

"In Europe the salted herring for export are all put up either round or mostly gibbed or gutted; none, as far as I am aware, are ripped down the stomach, as they do in Newfoundland, the Dominion of Canada and partly also in the United States. In each of these instances different quantities of salt must be employed. A round

herring takes more salt than a herring which is gibbed and gutted, and these last again more than the herring which is ripped in the stomach and all the entrails removed. Again, a fat herring takes more salt than a lean one; a large herring more than a smaller one; and in the hot season of the year all herring requires more salt than in the cold season.

"Besides the proper amount of salt employed to the different kinds of herrings for the markets and in the different seasons of the year, due attention must also be paid as to how the herring is treated, packed, and what kind of barrels is employed, if a real good article shall be obtained, (page 50).

* * * * *

"The ripping of the herring down the stomach and the removal of all the entrails and blood, before it is put in salt, is certainly the most proper and complete mode of treatment; but as the continental consumers of herring generally value either the fat of the milt and roe very much, this way of treatment finds no acceptance in Europe. It has, therefore, to be cured according to the consumer's taste, with the fat, milt and roe left in the fish, in order to meet a demand in the markets, (page 52).

Object of Gibbing and Gutting Herring.

"The object of gibbing and gutting is:—

"1. To liberate the herring from the blood, which is done by the removal of the gills, the throat and heart.

"2. To remove such ingredients as are already in a state of decomposition (such as the stomach and intestines), or such matter as is most apt to decay, before the salt has a chance to penetrate into all parts of the herring.

"3. To give the pickle a better chance to act upon the herring, as well from the inside as from the outside, through the skin.

"4. Finally, to lessen the quantity of salt used in the cure of herring, and thereby improve the flavour of the fish.

"In Norway, as a rule, only the throat, pectoral fins, the heart, and in some cases the gills, are removed. By this operation, which is done either by tearing out a piece in the throat with the fingers, or by clipping it out with a scissors made for that purpose, the first object (to remove the blood) is obtained, and even this only partly. The Dutch and the Scotch remove the gills, throat, pectoral fins, liver, heart, stomach, crown or blind gut, if the herring is intended for export to foreign countries; and by this operation the full object of gibbing and gutting is obtained. What is left then is only the milt and roe, which some people are very fond of. The blind gut is claimed by many curers and consumers to give the herring a nice flavour, and for this reason it is often allowed to remain," (pages 52 and 53).

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"Newfoundland Herring.

"Although the Newfoundland herrings are large, they cannot compare with the best Labrador or European herring in fatness and fine flavor. Still, the good winter herring, which I have seen in Placentia and Fortune Bay, are fully equal to the herring caught in Europe in the winter and spring, if not better; and if put up in a good European way would I consider, be fully able to compete with those herring in the American markets. Whether these large herring would suit the European markets is a question. The continental people, as a rule, do not care much for very large herring. They consider the flesh in those too coarse, (page 54).

"Qualities of the Good Herring.

"Concerning the nature of the fresh herring, it is required, in order to obtain a good article, that the herring also possess certain qualifications, such as sufficient size and maturity, fleshiness and fatness. A lean, dry, dismembered or half-rotten herring can never give a good article, even if it is cured ever so well. A small

herring, which has not reached the full state of maturity, fetches only small prices in the markets. Of much importance is also the development of the sexual organs. If these are in a far advanced state, the herring loses in fatness and flavour. These should be firm, and the whole flesh penetrated with a certain quantity of fat. Large amounts of fat around the blind gut is a sign of the herring being fat right through the flesh. As a rule, ocean herring (such herring as pass most of the time in the ocean, and only approach the coast for reproductive purposes) are considered superior to the herring that keep themselves close to the coast or in the bays all the time. Of these herring again, those which are caught in deep water are better than those caught in shoal water. A first-class herring is known by its small head, short and plump body; is broad across the back, and plump towards the tail, and has got a great depth from the back to the abdomen, which gives this a well-rounded shape, (page 54).

"Importance of early Salting.

"In order to obtain a good article of salt, cured herring it is necessary that the herring is liberated from its food, and put in salt as soon as possible after being brought out from the water. Even if the quality is ever so fine, a good article can never be had if it is not properly treated during the whole cure. The Scotch herring cannot get the official Crown brand except they are salted at least twenty-four hours after being brought out from the sea. As a rule, the curers do not care about herring which is more than twenty-four hours out of the sea before they are landed, and only take those at a low figure. In Holland, even, a distinction is made between the herring which are taken out first and those which are taken last from the nets. The cure of herring on board the fishing crafts commences therefore, if circumstances allow, soon after the nets are hauled in. To leave the herring exposed to the hot sun while being conveyed to the salting place, or to leave the herring in the nets until the shore is reached, if the catch has taken place a long distance off the shore, is objectionable. An old law in Norway, of 1775, even prohibited people from taking such herring from their seines, in the summer time, before 10 o'clock in the evening and after 5 o'clock in the morning, if it was going to be salted for export," (pages 54 and 55).

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"Best Salt for Herring.

"In regard to what kind of salt is the most suitable for salting herring, it is difficult to give any one sort the preference. The choice of salt depends much upon how the herring is going to be cured, and upon the size and quality. The main thing is, that the salt is clean, and that it is used in proper quantities. Fine and watery salt melts quicker, but gives weaker pickle. In cases where it is of importance to form pickle speedily fine salt is preferable; while coarse salt is better for use in filling and re-packing, or when the herring is intended for export to hot climates, or to be kept in stock for any length of time. The Scotch curers use Liverpool salt, the Dutch light Cadiz or Lisbon salt, while the Norwegians use St. Yves salt. It is of much importance, as formerly stated, to put the herring in salt as quick as possible, if a first-class article shall be obtained. For this reason the Scotch, as the herring is landed, sprinkle it heavily with salt in bins or vessels made for that purpose, before it is gibbed and gutted. Generally they use one barrel of Lisbon or coarse Liverpool salt (or sometimes both mixed) to about ten barrels of herring. By this means the herring keep their scales better and brighter, and can also be handled better and quicker, when they are afterwards gibbed and gutted. The Hollanders roll their herrings in trays filled with fine Liverpool or St. Yves salt as soon as they are gibbed and gutted, before they pack them in barrels; and this work is done very precisely. In Norway no sprinkling with salt, as a rule, is used before the herrings are gibbed or packed in barrels, but instead thereof they have to use more salt in packing than the Dutch and Scotch. The sprinkling of herring with salt as soon as they are landed or brought on board of the vessels is considered also to improve the flavour of them very much," (page 56).

" Packing Herring.

" In packing the herring in barrels it is recommendable not to pack them too tight before they have shrunk in the salt, and also to pack herring of the same size and quality right through the whole barrel. The packing is performed differently among different nations. In Norway the herrings are packed slantways on their back, while the Scotch and Hollanders pack them fully on their back. By this last mode (which no doubt is the best) the herring get a more round and thick appearance in the back; and it has also this advantage, that the pickle has got a better chance to get in and saturate through the abdominal cavity of the gutted herring. After the herring has shrunk in the salt the barrels are filled up again, and put away, but care is taken that the herring is not packed too hard. As long as the barrels are left to remain still there is no need of hard packing, but when they are to be shipped it is recommendable to repack the herring so tight that they do not move about, even if the barrels are handled ever so roughly, so that the receiver may be exempted from filling the barrels again after they have reached their place of destination. (Pages 56 and 57.)

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" The Norwegian Cure of Herring.

" As formerly stated, the largest quantity of herring in Norway is caught in the fjords by seines, and kept barred until what food the herring may contain is worked out in the natural way before they are taken up, dressed and salted. As a rule, the herring are salted in the vicinity of the places where they are caught, so that they can be put in salt almost alive, which is of the utmost importance in order to obtain a good article. In this way they have an advantage over the Scotch, who have to go far off the coast for their herring, and cannot get them in salt before they reach the shore, which often takes a long time. They have an advantage over the Dutch, because although they salt their herring on board of their vessels soon after they are caught, still they may have been dead several hours in the nets before they are hauled on board, and at all events none of the herring taken in drift-nets or other nets can be deprived fully of the injurious food they may contain as they can when barred in a seine. When brought to the shore or salting places from the seine the herrings are gibbed in this way—that a triangular piece of the throat, large enough to admit the heart and the pectoral fins to be removed, is cut out by the means of scissors made for that purpose, or by a small knife (some also use the fingers). This cut should be made deep enough to divide the large blood-veins situated close to the neck-bone, in order to remove the blood it contains. Sometimes also the gills are removed, especially on the full herring caught in the spring. (Page 59.)

" Salting and Packing.

" Generally a large enough crew is employed to admit the gibbing and the salting to take place at the one time. On account of the herring caught in seines being always mixed every gibber has got placed before him or her so many barrels or tubs as the herring are to be sorted in (from three to five); and according as they are gibbed every herring is also at the same time, by the gibber, sorted and placed in the various barrels or tubs to which they belong. The salter then takes the herring and packs them in new barrels, which lately have been soaked in sea-water, slantways on their back, with $\frac{1}{4}$ barrel of St. Yves salt to 1 barrel of herring. The herring are packed loosely, one lays across the other the whole barrel through. The uppermost layers are packed sometimes slantwise, back up. Some packers put from $1\frac{1}{2}$ to 2 gallons of pickle (made of $\frac{1}{2}$ brl. of salt to 1 brl. sea-water) on the herring soon after it is salted, and head up the barrels immediately. Others again let the barrels remain unheaded for one day before they fill them with pickle. Before the barrels are headed up a layer or two of herring are generally put into the barrels, in order to fill up the empty room caused by the shrinking of the herrings. By putting the pickle on the herring soon after they are packed the salt dissolves

quicker and saturates the herring more speedily, so that the contents of the stomach (provided the food is liberated) hardly has got any injurious effects upon the durability of the herring. After the barrels are headed up they are broached in the head and blown into by means of a brass pipe containing a valve, which is put down in the hole, and if found tight the hole is plugged up as soon as the air has escaped; if not, they are made tight in the places where they are leaky, and blown over again before they are stowed down on board the vessels. (Pages 59 and 60.)

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"Branding—Its Value.

"The system of culling, along with the official Crown mark on all exported herring barrels, has contributed more to the good reputation the Scotch herrings have gained in the continental markets than many may imagine.

"The dealers, on reception of Scotch herring with the Crown brand, are satisfied that the barrels really contain what they are branded for, in regard to quality and weight; and this has given them such confidence in the Scotch herring that these are received and approved of without even being opened; while the Norwegian herring barrels, since the official branding was abolished in 1851, must be opened and re-packed before the recipient can sell them, which often causes a good deal of inconvenience. (Page 63.)

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"Consumers' Tastes to be Consulted.

"It is an important point to cure the herring according to the consumers' taste, and not according to one's own, and to put them up in packages suitable for the different markets. Most of the continental people in Europe hold the opinion that the original pickle (blood-pickle called) gives the herring a nice flavour; and it is also held that the Dutch herrings are superior to any other because they are salted on board immediately after being caught, and the motion of the vessel has a beneficial influence upon the pickle and the herring. The Dutch believe much in the original pickle; and when this gets short, they even make pickle of the fresh offal after gibbing or gutting, instead of making pickle of clean salt and water. A good pickle should have a mild and sweet taste. If the pickle commences to get a disagreeable taste it is a sign that the herring has not been salted satisfactorily, and that the herring will spoil within a short time. In such cases it is recommendable to do away with the bad pickle, if the herring still is good, and supply the barrels with new pickle, made of clean salt and water.

"How the Americans like their Herrings.

"The European herring are mostly consumed among the continental people in Europe and the European population of America. These people seldom cook their herring, but eat them in the pickled state, after being soaked in fresh water, or pack them up into salad, or in pickle, in various ways, made of vinegar and spices. For this reason they do not care for a herring which is over-salted and hard in the flesh, or deprived of its flavour by too much salt, nor do they care for too large herring with coarse flesh, nor for lean herring; but prefer a middle sized one, with rich, fine and tender flesh, salted as mild as possible. They appreciate a herring of such a quality and so cured that it almost melts away in their mouths when it is eaten. The Dutch reckon they use in all one barrel of Lisbon salt to five barrels of herring in the hot season, and one barrel of salt to six barrels of herring in the colder seasons of the year.

"A short view of the European Herring Business in the United States of America.

"Of the European herring the Dutch cure has gained the widest markets in the States. The export of herring to the United States from Holland has increased

largely of late years, and at the same time also the demand for the best and finest qualities, which has become an universal article of food among a large number of the inhabitants. (Page 67.)

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"Season for Herrings in the United States.

"The first Dutch matties arrive in the States in the month of June—'Voll' herring arrive in the latter part of July, but the great demand for and sale of herring commences about the first of September and continues until the middle of November. From this time and until the month of February only a small business is done in herring in the States. The season for demand and sale open again about the first of February and continues to the middle of April. The stock of herrings is as a rule disposed of before the hot weather sets in. It is of no use to keep herring in stock the summer over, in the States, or to send old herring there, because these cannot be sold, and will only bring the shippers heavy loss. The people who consume European herrings want to get a fresh and newly-cured article." (Page 68.)

"Prices in the United States.

"The prices on Dutch as well as other herrings vary often, and like other articles are regulated by the supply and the demand. Sometimes kegs which contain only milt-herring will fetch from 15 to 20 cents more than kegs which contain milt and roe herring mixed. Certain brands of selected superior herring, packed by careful shippers, also fetch higher prices than the common packing. The average prices for the kegs of Dutch herring are from 40c. to 70c. and \$1.10; and by the barrel from \$9 to \$10, according to quality and packing." (Page 69.)

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"Scotch Herrings in the States.

"The import of Scotch herrings to the United States is yet limited, but a few thousand barrels have been imported and sold at favourable prices; and as the Scotch are working hard to get their herrings introduced into the American markets, no doubt by continued shipping of the finest and best cured herring they, after a time, will gain markets and increase their export. A Scotch barrel of herring contains about 250 pounds of fish, exclusive of pickle, and from 700 to 800 large herring with milt and roe. I have been informed that Scotch Crown full herring has been sold in New York at \$9 and \$10 per barrel, according to quality and packing." (Page 70.)

COMPARISON OF INSPECTION LAWS AS AFFECTING FISH AND FISH OIL.

1873.

1874.

Revised Statutes, 1886.—Text of Existing Laws.

Synopsis of Act 36, Vic., cap. 49. Synopsis of Act 37 Vic., cap. 45.

Sec. 59. Inspector to provide himself with proper branding irons and to know that his deputies are also so provided.

Sec. 60. Inspecting, culling, classifying, etc., to be done in presence and sight of inspecting officer.

Sec. 61. Duty of inspecting officer to see that all kind of split, whole, pickled or salted fish intended for packing and barreling and inspection are well struck with pickle and salt, and are free from taint, rust or damage, and that all fish or oil branded as merchantable shall be well and properly packed.

Tierces, barrels or half-barrels to be made of sound, well-season-

Sec. 61 requires that every inspector shall provide himself with proper branding irons or stencil plates for the purpose of branding such packages of fish as he may inspect, and that it shall be his duty to see that each of his deputies are duly provided with the same.

Sec. 62 provides that inspecting, culling, classifying, &c., of any fish or fish-oil shall be done in the immediate presence and sight of an inspector or deputy.

Sec. 63. It shall be the duty of the inspecting officer to see that all kinds of split, whole, pickled or salted fish intended for packing or barreling, and submitted to him for inspection, are well struck

71. The expression "fish-oils," in the following provisions respecting fish and oils, includes whale, seal, porpoise, cod, herring, sturgeon, siskawitz and all other kinds of oils derived from fishes or marine animals. 37 V., c. 45, s. 67, *part*.

72. Every inspector shall provide himself with proper branding irons, or stencil plates, for the purpose of branding or marking such casks, barrels and boxes as are by him inspected pursuant to this Act; and every inspector shall see that all the deputy inspectors under him are duly provided in this respect. 37 V., c. 45, s. 61.

73. The inspecting, culling, classifying, weighing, packing and branding or marking of any fish or fish-oil shall be done in the immediate

COMPARISON OF INSPECTION LAWS AS AFFECTING FISH AND FISH OIL.

ed split or sawed staves, free from sap, planed on outside, and at least three-quarters of an inch in thickness. Staves for salmon and mackerel barrels shall be twenty-eight inches in length, and the heads between the chimes seventeen inches. For herring barrels staves shall be twenty-seven inches long, and the heads between the chimes sixteen inches. All casks to be hooped one-third of their whole length from each chime, with sound hoops of not less than one inch in width. Makers of all packages to brand their names near the bung staves—for not doing so, a penalty of twenty cents for each package is provided.

Sec. 62. Inspection of all pickled fish and fish-oil for market or exportation, and of all fish-oils, cod-fish, tongues or sounds cured for such purpose is compulsory, throughout the Dominion, where an inspector has been appointed, except in Manitoba and British Columbia, under penalty of forfeiture, and five dollars per package.

Sec. 63. Pickled fish, fish-oils, cod-fish tongues and sounds, shall be inspected in accordance with the Act, and all green cod-fish shall be inspected or culled, and a certificate of inspection stating quality and quantity thereof, so inspected, shall be granted by inspecting officer.

Sec. 64. Provision is made for the branding of the different qualities of salmon, mackerel, herrings, gaspereaux, alewives, smoked herrings, sea trout, lake and salmon trout, whitefish and green cod-fish.

Sub-sec. 9. All other fish not named, but belonging to denominations specified in this Act, shall be branded as such, and must be sound and well cured.

Sub-sec. 10. Small fish, usually packed whole with dry salt or pickle, shall be put in good casks of the size, etc., as required by the Act, shall be packed close edgewise, and the casks branded with the denominations of the fish, etc.

Sub-sec. 11. Rusty or sour fish shall be so branded.

Sub. sec. 12. No foul, tainted or mutilated fish, that marks of illegal capture may be concealed, shall pass inspection, and any deputy inspector may seize, and any magistrate confiscate such fish.

Sub-sec. 13. Fish known as pickled fish, cured in bulk, shall, in addition to other brands, be branded with the word "bulk."

Sub-sec. 14. Each package of fish shall contain fish of the same kind, properly packed in separate

with pickle and salt, and are free from taint, rust or damage, and that all fish or fish-oil branded as merchantable shall be well and properly packed in substantial packages, except green codfish packed without pickle, which may be packed in barrels or packages, not tight.

Tierces, barrels, or half-barrels to be made of sound, well-seasoned split or sawed staves, free from sap, and in no case to be of hemlock. The heading to be of hardwood, pine, fir, or spruce, free from sap, planed on the outside, and at least three-quarters of an inch in thickness. Staves shall be $\frac{3}{4}$ of an inch in thickness. Staves for salmon barrels shall be twenty-nine inches in length and the heads between the chimes seventeen inches. Staves for barrels for herrings shall be twenty-seven inches in length, and heads between the chimes shall be sixteen inches, and the bung staves of all such barrels shall be of hardwood. All casks shall be hooped with not less than twelve sound, good hoops of not less than one inch in width on the large end for all tierces and barrels, and in no case to be of alder.

The makers of all tierces, barrels and half-barrels to brand the initials of their christian names and their whole surnames, and also the letters "S," "M" or "H," according as the package made be intended for salmon, mackerel or herring, at or near the bung stave. For not doing so a penalty of twenty cents for every package is provided. All empty barrels shall be subject to inspection and approval. Any of such packages that will not pass inspection are to be branded with the word "condemned," immediately after the maker's name.

Sec. 64. Inspection of all pickled fish for market or exportation, and of all fish-oils, codfish tongues or sounds, cured for such purpose, shall be compulsory throughout the Dominion where an inspector has been appointed, except in Manitoba and British Columbia, under a penalty of not less than one dollar and not more than five dollars for each package.

Sec. 65. Pickled fish, fish-oils, codfish tongues and sounds, shall be inspected in accordance with Act, and all green codfish shall be inspected or culled, and a certificate of inspection stating quality and quantity thereof so inspected shall be granted by inspecting officer.

Sec. 66 provides for the branding of the different qualities of salmon, mackerel, herrings, gaspereaux, alewives, sea trout, lake

presence and sight of an inspector or deputy inspector. 37 V., c. 45, s. 62.

74. The inspector or deputy inspector shall see that all kinds of split, whole, pickled or salted fish, intended for packing or barrelling, and submitted to him for inspection, have been well struck with pickle and salt, in the first instance, and preserved sweet, free from taint, rust, salt-burn, oil or damage of any kind; and all fish and fish oil intended for market or exportation, and branded or marked as inspected and merchantable, shall be well and properly packed in good, tight and substantial packages or casks, and in the case of fish with clean salt—except green codfish packed without pickle, which may be packed in barrels or packages which are not tight; and all other packages shall be made of the materials and in the manner following:—

(a.) Tierces, barrels and half barrels shall be made of sound, well seasoned split or sawed staves, free from sap, and in no case of hemlock, and the heading shall be of hardwood, pine, fir or spruce, free from sap, and planed on the outside, and shall be at least three-quarters of an inch in thickness; the staves shall be five-eighths of an inch in thickness; staves for salmon and mackerel barrels shall be twenty-nine inches in length, and the heads between the chimes seventeen inches; staves for barrels for herring shall be twenty-seven inches in length, and the heads between the chimes shall be sixteen inches; and the bung staves of all such barrels shall be of hardwood; all casks shall be hooped with not less than fourteen sound, good hoops, of not less than five-eighths of an inch at the small end for all tierces and barrels, and in no case to be of alder; the makers of all tierces, barrels and half barrels shall brand the initials of their christian names and their whole surnames, and also the letters S., M. or H., according as the package is intended for salmon, mackerel, or herring, at or near the bung staves, and in default of so doing shall incur a penalty of twenty cents for every package not so branded;

(b.) Barrels of the following dimensions may also be used for a special quality of fish, that is to say: the staves shall be twenty-eight inches long, the head seventeen inches between the chimes; the chimes shall be one and a-quarter inches, and the head three-fourths of an inch in thickness, and the bung stave shall be of hardwood: every such barrel shall be branded with the words "special size;"

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layers, and salted with good clean suitable salt, at discretion of inspecting officer, and, after the cask has been properly packed and branded, shall be filled with clean pickle strong enough to float a fish of the kind packed.

Sub-sec. 15. If an inspecting officer decides that a portion of the fish in a package only is sound he shall separate the sound from the unsound, and so brand them.

Sub-sec. 16. If, owing to a casualty, it becomes necessary to re-pack inspected fish, it shall be done by and in the presence of an inspecting officer.

Sub-sec. 17. Fish branded by a deputy inspector, which may prove unequal in quality or quantity to that indicated by the brand, may, by order of the inspector, be re-inspected, and if it should prove that such deficiency was the result of any neglect on the part of the deputy, the cost and charges of re-inspection may be recovered from such deputy.

Sub-sec. 18. Duly inspected and branded pickled fish and oils under the Act shall not be subject (except in cases already provided) to re-inspection within the Dominion.

Sub-sec. 19. The weight of all fish when packed shall be clear avoirdupois, exclusive of salt and pickle.

Sub-sec. 20. On the head or butt of each cask there shall be branded the description of fish in the package, the weight and quality, together with the inspecting officer's name, and date and place of inspection.

Sec. 65. The Boards of Examiners, and inspectors of fish and fish-oils, shall fix and have in charge the standard for fish-oils in Nova Scotia, New Brunswick, Quebec and Ontario respectively, and the same shall be classified and branded according to such standards.

Sec. 66. For the classification and fees *vide* Act. Any person causing his fish or oil to be inspected may employ at his own cost a cooper to assist the inspecting officer, in which case such officer shall not be allowed any charge for cooperation. The cooper so employed shall be guided solely by the inspector's directions.

Sec. 67. Fish and fish-oil may be inspected either at the place where they are packed or manufactured or at the place of sale within the Dominion.

Sec. 68. When fish are not inspected at place of packing the packer's name and quality of fish must be marked in paint on each package, and when inspected at

and salmon trout, white-fish and green codfish.

Sub-sec. 9. All other kinds of fish not named, but belonging to a denomination specified in this Act, shall be branded as such, and must be sound and well cured.

Sub-sec. 10. Small fish usually packed whole with dry salt or pickled shall be put in good casks of the size, &c., as required by this Act, and shall be packed close edgewise, and the casks branded with the denomination of the fish, &c.

Sub-sec. 11. Rusty or sour fish shall be so branded.

Sub-sec. 12. No foul, tainted or fish mutilated so that marks of illegal capture may be concealed shall pass inspection, and any deputy inspector may seize and any magistrate confiscate such fish.

Sub-sec. 13. Fish known as pickled fish cured in bulk shall, in addition to other marks, be branded with the word "bulk."

Sub-sec. 14. Each package of fish shall contain fish of the same kind, properly packed in separate layers and salted with good, clean, suitable salt, at discretion of inspecting officer, and, after cask has been properly packed and headed, shall be filled with clean pickle strong enough to float a fish of the kind packed.

Sub-sec. 15. If any inspecting officer decides that a portion of the fish in a package only is sound he shall separate the sound from the unsound, and so brand them.

Sub-sec. 16. If, owing to a casualty, it becomes necessary to re-pack inspected fish, it shall be done by and in the presence of an inspecting officer.

Sub-sec. 17. Fish branded by a deputy inspector which may prove unequal in quality or quantity to that indicated by the brand may, by order of the inspector, be re-inspected, and if it should prove that such deficiency was the result of any neglect on the part of the deputy, the cost and charges of re-inspection may be recovered from such deputy.

Sub-sec. 18. Duly inspected and branded pickled fish and oils under the Act shall not be subject (except in cases already provided) to re-inspection within the Dominion.

Sub-sec. 19. The weight of all fish when packed shall be clear avoirdupois, exclusive of salt and pickle.

Sub-sec. 20. On the head or butt of each cask there shall be branded the description of fish in the package, the weight and quality, together with the inspecting officer's name, and date and place of inspection.

2. Every inspector or deputy inspector who inspects, marks or brands any fish packed in barrels, tierces or other packages, which are not in accordance with the requirements of this Act, shall incur a penalty of one dollar for each such barrel, tierce or package inspected, branded or marked. 48-49 V., c. 66, s. 14.

75. All pickled and smoked fish cured for market or exportation, and all fish oils, codfish tongues and codfish sounds, shall be inspected, weighed or gauged, and branded or marked, only in accordance with this Act; and all green codfish, in boxes or packages, shall be inspected and culled, and a certificate of inspection for the latter, stating the quality and quantity thereof so inspected, and shipped on board any vessel, shall be granted by any inspector or deputy inspector. 37 V., c. 45, s. 65;—43 V., c. 20, s. 2.

76. The various kinds of fish to be inspected under this Act shall be branded or marked of the following denominations respectively:—

(1.) Salmon branded or marked "No. 1" shall consist of the largest or best and choicest kind, well split, having the blood well washed out before being salted, well cured, in the best condition, and in every respect free from taint, rust or damage of any kind;

(a.) Those branded or marked "No. 2" shall comprehend the best salmon that remain after the selection of the first quality, and shall be good, sound, well split and cured fish, in the best condition, and in every respect free from taint, rust or damage of any kind;

(b.) Those branded or marked "No. 3" shall consist of those that remain after the selection of the two first two qualities, but shall be good, sound fish, and in every respect free from taint, rust or damage of any kind;

(2.) Mackerel branded or marked "mess mackerel" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall be such as would have measured not less than fourteen inches from the extremity of the head to the crotch or fork of the tail, and shall have the heads and tails taken off;

(a.) Those branded or marked "Extra No. 1" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall measure not less than fourteen inches from the extremity

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the place of sale ten packages of each hundred shall be emptied.

Sec. 69. When fish are inspected a bill of inspection shall be furnished by the inspecting officer, setting forth the particulars of such inspection.

Sec. 70. The Act is not to apply to fish landed at any port in the Dominion from United States fishing vessels for the purpose of re-shipment to the United States, unless inspection is desired by the owners. Provided always, that such fish, if so re-shipped, shall not be branded.

(For classification and fees see Act.)

Any person causing his fish or oil to be inspected may employ (at his own expense) a cooper to assist the inspecting officer, in which case such officer shall not be allowed any charge for cooperation. The cooper so employed shall be guided solely by the inspector's directions.

Sec. 69. Fish or fish-oil may be inspected either at the place where they are packed or manufactured, or at the place of sale within the Dominion.

Sec. 70. When fish are not inspected at the place of packing, the packer's name and quality of the fish must be marked in paint on each package, and when inspected at the place of sale ten packages of each hundred shall regulate the grade of the fish so submitted for inspection.

Sec. 71. When fish are inspected a bill of inspection shall be furnished by the inspecting officer, setting forth the particulars of such inspection.

Sec. 72. This Act is not to apply to fish landed at any port in the Dominion from United States fishing vessels for the purpose of re-shipment to United States, unless inspection is desired by the owners; provided always that such fish so re-shipped shall not be branded. In 1876 the above Act was amended as follows:—

1876.

Act 39 Vic., cap. 33.

Sec. 1 amends section 63 of Act 37 Vic., cap. 45, by striking out the words "one inch in width at the large end," and inserting in place thereof the words "five-eighths of an inch at the small end."

Sec. 2 substitutes for section 64 the following:—

The inspection of all pickled fish cured for market or exportation, and of all fish-oils, &c., shall, whenever such pickled fish or oils are removed beyond the limits of the inspection district in which they are pickled or packed, be compulsory in every Province of the Dominion except British Columbia and Manitoba, where an inspector is appointed by law, and if any such pickled fish, &c., be sold or removed for sale beyond the limit of such district without being inspected under this Act, the person so selling or removing the same shall incur a penalty of not less than one dollar and not more than five dollars for each and every package.

of the head to the crotch or fork of the tail:

(b.) Those branded or marked "No. 1" shall consist of the best and fattest mackerel, well split, having the blood well washed out before being salted, well cured, in the best condition, and free from taint, rust or damage of any kind, and shall measure not less than thirteen inches from the extremity of the head to the crotch or fork of the tail;

(c.) Those branded or marked "No. 2" shall comprehend the best mackerel that remain after the selection of the first qualities, and shall be properly split and washed, well cured, and in every respect free from taint, rust or damage of any kind, and shall be divided into two qualities, those thirteen inches and upwards not sufficiently fat to make No. 1 being branded No. 2 large, and those from eleven inches up to thirteen inches being branded No. 2;

(d.) Those branded or marked "large No. 3" shall consist of good, sound mackerel, properly washed, well cured, and free from taint, rust or damage of any kind, and shall measure not less than thirteen inches from the extremity of the head to the crotch or fork of the tail;

(e.) Those branded or marked "No. 3" shall consist of good, sound mackerel, properly washed, well cured and free from taint, rust or damage of any kind, and shall measure eleven inches and upwards from the extremity of the head to the crotch of the tail;

(f.) All mackerel under eleven inches in length, of good, sound quality, and free from taint, rust or damage of any kind, shall be branded or marked with the words "small spring" or "small fall" in the place of a number;

(g.) All short, sunburnt or ragged mackerel, not otherwise defective, of whatever class, shall be branded or marked "No. 4;"

All spring mackerel shall be packed in coarse or ground West India salt.

(3.) Herrings, branded or marked "No. 1 Extra," shall be thirteen inches and upwards in length, and fat, and shall be well struck with salt, thoroughly cured and cleaned, and bright in colour.

(a.) Those branded or marked "No. 1" shall be from ten to thirteen inches in length, well struck with salt, thoroughly cured and cleaned, and bright in colour;

(b.) Those branded or marked "No. 2" shall be from eight to ten inches in length, and shall comprehend the best herrings that remain after the selection of quality No. 1;

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Sec. 3 amends sub-section 4 of section 66, by adding the following words to the first paragraph:—

And every such box of smoked herrings shall contain at least twenty pounds of fish; and half boxes shall be twenty-two inches long, four inches deep and eight inches wide, and to contain not less than ten pounds of fish.

Sec. 4 amends sub-section 8 of section 66, as follows:—

Every barrel of pickled codfish shall contain two hundred pounds of fish, and every half barrel one hundred pounds of fish.

(c.) Herrings under eight inches in length shall be branded or marked "No. 3," with the word "small" in addition to the other brands or marks;

(d.) All ripped herrings shall be branded or marked with the word "split," in addition to other brands or marks;

(e.) All gibbed herrings shall be branded or marked with the word "round" in addition to other brands or marks;

(f.) All herrings that are not gibbed or ripped shall be branded or marked with the word "gross" in addition to other brands or marks;

(g.) All spring-caught herrings shall be branded or marked with the word "spring" in addition to other brands or marks.

The above shall be well cleansed and cured, and in every respect free from rust, taint or damage;

All spring and fall herrings shall be packed in coarse or ground West India salt;

Herrings that are caught at the Magdalen Islands, Baie des Chaleurs, Labrador or Newfoundland, and brought into port in Canada in bulk and packed in Canada, shall be branded or marked "Magdalen Islands," "Baie des Chaleurs," "Labrador," or "Newfoundland," respectively, in addition to other brands or marks;

(4.) Smoked herrings branded or marked "No. 1" shall comprehend the best and fattest fish; and those branded or marked "No. 2" shall consist of the poorer, smaller and inferior fish;

(a.) Both of these qualities shall be well smoked, free from taint, and not burnt or scorched; and no red or smoked herrings shall be so branded or marked unless they are well and sufficiently saved and cured and carefully packed in good and substantial barrels or half-barrels;

(b.) If smoked herrings are packed in kegs or boxes, the same shall be of well-seasoned boards the sides, top and bottom of not less than half an inch in thickness, and the ends at least three-quarters of an inch thick; the inside measurement of each box shall be eighteen inches long, nine inches broad, and eight inches deep, the joints well nailed, and the tops or covers smoothed;

And every such box of smoked herrings shall contain at least twenty pounds of fish; half boxes shall be twenty-two inches long, four inches deep and eight inches wide, and shall contain not less than ten pounds of fish;

(c.) Tainted, burnt, scorched and badly smoked herrings shall be considered "refuse," and may be

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branded or marked as such without any other character.

(5.) Gasperaux or alewives, branded or marked "No. 1," shall consist of the largest and best fish, measuring nine inches and upwards, well struck with salt, thoroughly cured and cleaned, and bright in colour;

Those branded or marked "No. 2" shall be from seven to nine inches in length, and shall be the best that remain after the selection of quality No. 1;

Those under seven inches in length shall be branded or marked "No. 3," with the word "small" in addition to the other marks or brands;

All gaspereaux and alewives shall be packed in coarse or ground West India salt;

(6.) Sea trout branded or marked "No. 1" shall consist of the largest, best and fattest kind, well split, and in every respect free from taint, rust or damage of any kind;

(a.) Those branded or marked "No. 2" shall comprehend the best trout that remain after the selection of the first quality, and shall be good, sound fish, free from taint, rust or damage of any kind;

(7.) Lake and salmon trout, branded or marked "No. 1 lake," shall consist of the largest and fattest fish, and be free from taint, rust or damage;

(a.) Those branded or marked "No. 2 lake" shall consist of the next best fish, free from taint, rust or damage;

(8.) Whitefish branded or marked "No. 1" shall consist of the largest and fattest kind, cured in good condition, and in every respect free from taint, rust or damage;

(a.) "No. 2" shall consist of those that remain after the selection of the first quality, and be free from taint, rust or damage;

(9.) Green codfish in barrels, with or without pickle, classed "No. 1, large," shall consist of the best and fattest fish, well split and cleansed, well cured, in first-rate condition, and in every respect free from taint, salt-burn, rust or damage of any kind, and shall measure twenty inches and upwards to the crotch of the tail;

(a.) Those classed "No. 1" shall consist of the best and fattest fish remaining after the selection of quality No. 1, large, well split and cleansed, well cured, in first-rate condition, and in every respect free from taint, salt-burn, rust or damage of any kind, and shall measure from sixteen to twenty inches to the crotch of the tail;

(b.) Those classed "No. 2" shall consist of those remaining after selection of quality No. 1, and shall be sound, well cured fish, and free from taint, salt-burn, rust or damage of any kind;

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(c.) Every barrel of pickled codfish shall contain two hundred pounds of fish, and every half-barrel one hundred pounds of fish;

(10.) All other kinds of fish not enumerated herein, such as ling, hake, haddock, pollock, catfish, halibut, shad, bass and eels, codfish tongues and codfish sounds, in casks or barrels, shall be branded or marked as such, and shall be sound and well cured, free from taint, salt-burn, rust or damage of any kind;

(11.) Small fish, which are usually packed whole, with dry salt or pickle, shall be put into good casks of the size and materials required by this Act for the packing of split, pickled fish, and shall be packed close, edgeways in the cask, and properly salted with good, coarse, wholesome, dry salt, and the casks shall be filled full with the fish and salt, and no more salt shall be put with the fish than is necessary for their preservation; and the casks containing such whole fish shall be branded or marked with the denomination of the fish, and a like designation as is prescribed by this Act in respect of the qualities of other pickled fish;

(12.) All rusty or sour fish, of whatever kind or class, shall be branded or marked with the word "rusty" or "sour," as the case may be, in addition to the other brands or marks;

(13.) No foul or tainted fish, or fish mutilated for the purpose of concealing marks and appearances of illegal capture, or unsizeable fish, shall pass inspection;

(14.) Fish known as pickled fish, which are cured in bulk, if not inspected and certified as aforesaid, and afterwards packed in barrels, shall be branded or marked with the word "bulk" in addition to other brands or marks;

(15.) Each cask or package of fish shall contain fish of the same kind, or parts of the same kind and quality, properly packed in separate layers, and on every layer of fish so packed in the cask a sufficient quantity of good, clean, suitable salt, free from lime, shall be regularly placed, in the proportion of half a bushel for each barrel of fish, and in like proportion for other packages, at the discretion of an inspector or deputy inspector; and after the cask has been properly packed and headed it shall be filled with clean pickle, strong enough to float a fish of the kind so packed;

(16.) If it appears to any inspector or deputy inspector that a portion of the fish inspected by him is sound, and another portion unsound, he shall separate the sound from the unsound, re-pack the sound fish, and brand or mark the same according to its quality; and such portion

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as the inspector judges incapable of preservation he shall condemn as bad, and mark "refuse," in addition to other marks;

(17.) If any casualty renders it necessary to re-pack inspected fish, it shall, in all cases, be done by and in the presence of an inspector or deputy inspector; and any other person attempting to re-pack or brand or mark the same shall incur a penalty not exceeding twenty dollars for every such offence;

(18.) When any fish, branded or marked by a deputy inspector, proves unequal in quantity or quality to that which is indicated by the brand or mark, or deficient in any way in the requisites prescribed by this Act, the inspector may cause the same to be re-inspected; and if it appears that the defect arose from the condition of the fish, or the bad quality of the cask, or the bad packing or pickling of the fish at the time of the inspection, he may recover the cost and charges of such re-inspection from the deputy inspector who branded or marked the same;

(19.) Pickled fish, duly inspected, packed and branded or marked, and fish oils, inspected and branded or marked under this Act, at any place in the Provinces of Nova Scotia, New Brunswick, Québec, Ontario, or British Columbia, shall not be subject to re-inspection within Canada, except in cases already provided for in this Act;

(20.) Each tierce shall contain three hundred pounds, and each half tierce one hundred and fifty pounds; each barrel shall contain two hundred pounds, and each half-barrel one hundred pounds; each quintal shall weigh one hundred pounds; each draft shall mean two hundred pounds; and each box of herrings shall contain twenty pounds at least; and in each case the weight shall be clear avoirdupois, exclusive of salt and pickle.

(21.) There shall be branded or marked on the head or butt of each cask of pickled or dry-salted fish, in plain, legible letters, after the same has been inspected, culled, classed, weighed and packed, in accordance with this Act, the description of the fish, the weight and quality contained in the package, the initials of the christian name or names, and the whole surname of the inspector or deputy inspector by whom the fish was inspected, and the name of the place where he acts as inspector, and the month and the year of inspection. 37 V., c. 45, s. 66, *part*;—39 V., c. 33, s. 3;—45 V., c. 25, s. 1;—47 V., c. 33, s. 5;—48-49 V., c. 66, s. 15.

77. Every inspector or deputy inspector shall seize, and any magistrate may confiscate to Her Majesty,

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all fish found or exposed for sale which have been killed or captured during prohibited seasons or by unlawful means, and all fish at any time offered for sale or barter, or attempted to be exported, whilst in an unwholesome condition. 37 V., c. 45, s. 66, *part*.

78. The boards of examiners of inspectors of fish and fish-oils shall fix and have in charge the standard of fish-oils in Nova Scotia, New Brunswick, Quebec and Ontario, respectively; and the same shall be classified and branded or marked according to such standards as follows:—

(1.) Whale oil shall be free from adulteration of every kind, and shall be branded as such, with the class according to quality appointed by standard,—if No. 1, “pale;” if No. 2, “straw;” if No. 3, “brown;”

(2.) Seal oil shall be free from adulteration of every kind, and shall be branded as such, with the quality per standard,—if No. 1, “strictly pale;” if No. 2, “pale;” if No. 3, “straw;” if No. 4, “brown;” if No. 5, “dark brown;”

(3.) Porpoise oil shall be free from adulteration of every kind, and shall be branded as such, with the quality per standard,—if No. 1, “pale;” if No. 2, “straw;” if No. 3, “brown;”

(4.) Cod oil shall be free from adulteration, and be branded as such—first quality, “A,” second quality “B;”

(5.) Herring, hake, pollock and dog-fish oil, and all other oils, shall be branded as such—first quality, “A;” second quality, “B;”

2. An inspector or deputy inspector shall determine the gauge of each cask, and the outs thereof, and shall mark the same on the cask; and the barrels shall be in good order and condition, sound and staunch, and made of hard wood; and if any cask or casks are found to contain water or other adulteration, the fact shall be scribed or branded by the inspector or deputy inspector on the cask:

3. Casks containing fish oils shall be scribed or branded with such quality, the month and the last two figures of the year when inspected, the initials of the christian name or names, and the entire surname of the inspector, and also the place of inspection, and the initial letters of the name of the Province in which it is inspected. 37 V., c. 45, s. 67.

79. Every inspector or deputy inspector who inspects and brands or marks any cask or package of pickled fish or pickled fish in bulk, or smoked fish or any fish oil, in accordance with the provisions of this Act, shall be entitled to fees at the following rates, which shall be paid

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by the original owner or the person who employed him in the first instance, that is to say :—

(1.) For each tierce of salmon, salmon trout or sea trout, fifteen cents ;

(2.) For each half tierce of salmon, salmon trout or sea trout, ten cents ;

(3.) For each barrel of salmon, salmon trout or sea trout, fifteen cents ;

(4.) For each half barrel of salmon, salmon trout or sea trout, ten cents ;

(5.) For each barrel of mackerel, ten cents ;

(6.) For each half barrel of mackerel, five cents ;

(7.) For each barrel of herring, seven cents ;

(8.) For each half barrel of herring, four cents ;

(9.) For each barrel of shad, ten cents ;

(10.) For each half barrel of shad, seven cents ;

(11.) For each barrel of whitefish, ten cents ;

(12.) For each half barrel of whitefish, seven cents ;

(13.) For each barrel of pickled codfish, hake, haddock or cat-fish, five cents ;

(14.) For each half barrel of the same, three cents ;

(15.) For each quarter barrel or kit of pickled fish, one and one-half cent ;

(16.) For each barrel of dry-salted codfish, hake, haddock, catfish, ling or pollock, five cents ;

(17.) For each half barrel of the same, three cents ;

(18.) For each barrel of bass, ten cents ;

(19.) For each half barrel of bass, seven cents ;

(20.) For each box of smoked herrings, one cent ;

(21.) For each half box of smoked herrings, one-half cent ;

(22.) For each quarter box of smoked herrings, one-quarter cent ;

(23.) For each barrel of cod tongues, cod sounds, halibut or eels, ten cents ;

(24.) For each half barrel of the same, seven cents ;

(25.) For inspecting, gauging and branding each puncheon of oil, twenty cents ;

(26.) For inspecting, gauging and branding each hogshead of oil, fifteen cents ;

(27.) For inspecting, gauging and branding each tierce of oil, twenty cents ;

(28.) For inspecting, gauging and branding each barrel of oil, fifteen cents ;

(29.) For inspecting empty packages, one cent ;

2. The foregoing rates shall be calculated exclusive of salt, pickle,

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cooperage, storage and labour employed in washing, rinsing, cleaning, nailing, screwing or re-packing and pickling any fish;

3. Provided always, that any person causing his fish or fish-oil to be inspected, may employ, at his cost and charges, a cooper to attend upon and assist the inspector or deputy inspector in the performance of his duty,—in which case the inspector or deputy inspector shall not be allowed any charge for cooperage,—and the cooper so employed shall be governed and guided solely by the directions which he receives from the inspector or deputy inspector with respect to any fish or fish oil by him inspected, and not by any other person. 37 V., c. 45, s. 68;—44 V., c. 22, s. 1;—48-49 V., c. 66, s. 16.

80. Fish and fish oil may be inspected either at the place where they are packed or manufactured, or at the place of sale within Canada. 37 V., c. 45, s. 69.

81. Whenever fish are not inspected at the place of packing, the packer's name and the quality of the fish shall be marked in paint, on each barrel, half barrel or package; and when they are inspected at the place of sale the inspector shall empty out ten packages in each hundred of any lot submitted to him for inspection, and such inspection of ten packages out of every hundred shall regulate the grade of the fish so submitted for inspection. 37 V., c. 45, s. 70.

82. So soon as any fish are inspected, a bill of inspection shall be furnished by the inspector or deputy inspector, specifying the quality as ascertained by inspection, and whether each package contains the weight prescribed by this Act, with the name of the packer, and of the inspector at the place of packing. 37 V., c. 45, s. 71.

83. This Act shall not apply to fish landed at any port of Canada from United States fishing vessels for the purpose of re-shipment to the United States, unless the owners of such fish wish them to be inspected; but such fish, if so re-shipped without being inspected, shall not be branded or marked. 37 V., c. 45, s. 72.

APPENDIX No. 8.

QUESTIONS SUBMITTED BY DEPARTMENT OF FISHERIES AND REPLIES THERETO BY FISHERY OFFICERS REGARDING THE LOBSTER FISH- ING INDUSTRY IN THEIR RESPECTIVE DISTRICTS.

QUESTION No. 1.—*Please state number of canneries in your division, and owners' names ?*

ANSWERS :

| | |
|---|-------------------------|
| Fishery Officer Wakeham, Gulf Division, Province of Que- bec..... | Thirty-three. |
| Inspector Hackett, Prince Edward Island..... | Ninety-eight. |
| Inspector Bertram, Dis- trict No. 1 of Nova Scotia, com- prising the Island of Cape Breton..... | Thirty-five. |
| Inspector Hockin, District No. 2, Nova Scotia, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysboro', Hants and Halifax . | Seventy-four. |
| Inspector Kinney, District No. 3, Nova Scotia, comprising Counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's..... | Twenty-four. |
| Inspector Pratt, District No. 1, New Brunswick, com- prising the County of Charlotte. | None. |
| Inspector Chapman, Dis- trict No. 2, New Brunswick, comprising Counties of Resti- gonche, Gloucester, Northum- berland, Kent and Westmore- nd..... | Upwards of one hundred. |

QUESTION No. 2.—*How many of these are owned by Canadians, and how many by
United States citizens ?*

ANSWERS :

| | |
|--------------------------|--|
| Fishery Officer Wakeham. | Twenty-four by Canadians ; nine by United States citizens. |
| Inspector Hackett..... | Eighty-seven by Canadians ; eleven by United States citizens. |
| Inspector Bertram..... | Twenty-five owned by Canadians ; nine by United States citizens, and one by an Italian. |
| Inspector Hockin..... | Forty-nine by Canadians ; twenty-five by United States citizens. |

ANSWERS:

| | |
|------------------------|---|
| Inspector Kinney..... | Sixteen by Canadians; eight by United States citizens. |
| Inspector Pratt..... | All have been in the past owned by Canadians. |
| Inspector Chapman..... | Three or four by United States citizens; rest by Canadians. |

QUESTION No. 3.—*State probable number of lobster traps used in your division?*

ANSWERS:

| | |
|---------------------------|---|
| Fishery Officer Wakeham.. | 43,900 in use; 50 per cent. of new traps each year to make good loss by storms, &c. |
| Inspector Hackett..... | 95,725 traps used in 1890. |
| Inspector Bertram..... | About 42,150., |
| Inspector Hockin..... | 118,000. |
| Inspector Kinney..... | 140,000. |
| Inspector Pratt..... | 14,766 traps used in 1890. |
| Inspector Chapman..... | Upwards of 100,000. |

QUESTION No. 4.—*Number of persons employed: (a) In fishing; (b) In canning.*

ANSWERS:

| | |
|--------------------------|--|
| Fishery Officer Wakeham. | (a) 457 men and boys; (b) 692 men, women and boys. |
| Inspector Hackett..... | 2,031—(a) 869; (b) 1,162. |
| Inspector Bertram..... | 2,409.—(a) 1,679; (b) 730. |
| Inspector Hockin..... | 3,779.—(a) 2,269; (b) 1,510. |
| Inspector Kinney..... | 2,300.—(a) 1,700; (b) 600. |
| Inspector Pratt..... | 320.—(a) 320; (b) canning not carried on. |
| Inspector Chapman..... | (a) 1,050; (b) 1,950—or about 3,000 in all. |

QUESTION No. 5.—*How many of each class are Canadians, and how many are foreigners?*

ANSWERS:

| | |
|---|--|
| Fishery Officer Wakeman. | In the United States factories (owned in) the foreman or manager is generally from the States, but all other hands employed are Canadians. |
| (The other Inspectors made no answer to this question.) | |

QUESTION No. 6.—*To what extent is the lobster fishery for export "alive" carried on in your division?*

ANSWERS:

| | |
|--------------------------|--|
| Fishery Officer Wakeham. | Not at all. |
| Inspector Hackett..... | No lobsters fished for export <i>alive</i> . |
| Inspector Bertram..... | No export of <i>live</i> lobsters. |
| Inspector Hockin..... | A very small trade done from west division of Halifax County; none from other divisions. |
| Inspector Kinney..... | About one-third of the take is sold in United States <i>alive</i> . |
| Inspector Pratt..... | All lobsters taken are exported <i>alive</i> . |
| Inspector Chapman..... | Very little, if any at all. |

QUESTION No. 7.—*At what earliest date does such fishing begin ?*

ANSWERS :

- Fishery Officer Wakeham. Depends on action of drift ice in spring. Magdalen Islands.—Earliest 10th May; latest 2nd June; average, about 20th May. Gaspé and Bay Chaleur—Earliest 1st May; latest 23rd May; average 10th May. Gulf division—About 15th May. At spots sheltered from easterly winds and drift ice fishing begins earlier than in exposed places. At Carleton, Maria and Pleasant Bays, and Grand Entry, traps not put out till seining for spring herring is over.
- Inspector Hackett.. No fishing.
- Inspector Bertram..... Dates vary; generally about 15th or 20th May, though sometimes, owing to drift ice is as late as 10th June. At Isle Madame, 1st May to 15th. From St. Peter's Island east, 20th to 25th May.
- Inspector Hockin..... No reply.
- Inspector Kinney..... 15th February.
- Inspector Pratt..... 1st January—the commencement of the open season.
- Inspector Chapman..... Unusually, in Restigouche and Gloucester Counties from 1st to 10th May. In Northumberland and Kent Counties from 10th to 15th May, and in Westmoreland County from 15th to 20th May.

QUESTION No. 8.—*What is the quality and quantity of catch at that date, and when is the catch at its best ?*

ANSWERS :

- Fishery Officer Wakeham. The catch is at its best soon after the fishery begins—say 23rd May—and continues good until 15th June, best both as to quality and quantity. Up to this date but few small lobsters (under 9½ inches) are taken; after this date the run is smaller and the meat inferior in quality. As soon as traps can be put out safely lobsters are taken. It takes nearly a week to get all the traps out, and by this time the fishery is at its best.
- Inspector Hackett..... No catch.
- Inspector Bertram..... In Inverness County, quality good; catch best during month of June. In Cape Breton County, quality good, catch fair; catch at best about latter part of June. In Victoria County, quality good, but quantity proportionately less; catch at best from middle of June until close of season. In Richmond County, quality and quantity good; best catch from 1st May to last of June.
- Inspector Hockin..... Cumberland County,—Overseer Mills reports catch at its best in June; Overseer Murphy in May. Guysboro' County—Overseer McQuarrie reports catch at its best between 10th and 30th June. Halifax County—Overseer Fitzgerald reports fish larger in May, but more plentiful in June. Overseer Rowlings reports catch at its best in month of May; Overseer Leslie, from 1st May to 10th June.

ANSWERS :

| | |
|------------------------|---|
| Inspector Kinney | At its best 25th April. |
| Inspector Pratt..... | Lobsters are of the best quality at the opening of season, and in this district (No. 1, New Brunswick) the quantity taken then is about six tons per week. In the beginning of February it increases to ten tons per week, when it is at its best. |
| Inspector Chapman..... | Sometimes very good at the commencement, but the fishing is usually at its best from 1st to 20th June, though this varies in different localities. Last year there was a fine run, especially in Kent and Westmoreland Counties, and now especially in Westmoreland at the very last of the fishing. The fish seem to strike in north first, and gradually work down the Straits. |

QUESTION No. 9.—*Give earliest dates of opening of factories in your division—say for the last three years.*

ANSWERS :

| | |
|---------------------------|---|
| Fishery Officer Wakeham.. | Magdalen Islands—1888, 25th May; 1889, 23rd May; 1890, 16th May. Mainland—1888, 18th May; 1889, 12th May; 1890, 9th May. |
| Inspector Hackett..... | From 1st to 15th May. |
| Inspector Bertram..... | Inverness County—1888, 27th May; 1889, 9th May; 1890, 17th May. Cape Breton County—15th May earliest date for last three years. Victoria County—1888, 25th May; 1889, 20th May; 1890, 3rd June. Richmond County—Seasons vary. Isle Madame first week in May; from St. Peter's Island east from 20th to 25th May. |
| Inspector Hockin..... | Straits of Northumberland—3rd May. South shore from Canso—15th April. |
| Inspector Kinney..... | Ordinarily about 15th April; exceptionally, 23rd March. |
| Inspector Pratt..... | The lobster factory formerly working in this district opened always about 1st May. |
| Inspector Chapman..... | 1st May in extreme northern part of the division. |

QUESTION No. 10.—*Give earliest date in spring at which it would be possible for canneries in your division to profitably commence operations.*

ANSWERS :

| | |
|--------------------------|---|
| Fishery Officer Wakeham. | (See reply to Question No. 7). A fair average date would be 15th May. |
| Inspector Hackett..... | On south side from 5th to 10th May; On north side from 10th to 20th May. |
| Inspector Bertram..... | In Inverness County—The first week in May, provided the coast would be clear of ice, but drift ice generally prevents successful operations until about 15th May, and some years later. |

ANSWERS :

- In Cape Breton County—About second or third week in May; as drift ice on the coast until the middle of May, and some seasons later, prevents operations.
- In Victoria County—From 20th to 25th May.
- In Richmond County—On Isle Madame factories can commence first week in May.
- Other districts from 20th to 25th May.
- Inspector Hockin..... Straits of Northumberland,—1st May.
- Inspector Kinney..... Canso West—15th April.
- Inspector Pratt..... 20th April.
- Inspector Chapman..... In the middle of February.
- From 1st of May in northern to middle of May in southern portion of division.

QUESTION No. 11.—*Give (average) comparative number of lobsters caught daily at opening of the fishery and later on in the season.*

ANSWERS :

- Fishery Officer Wakeham. At opening about 17,000; towards the close of the season about 6,000.
- Inspector Hackett..... On whole coast about 400,000 daily for first twenty-days, fishing, and about 200,000 daily for last twenty-five days' fishing.
- Inspector Bertram..... Inverness County—Impossible; seasons vary, but catch best generally in June.
- Cape Breton County—This impossible; some factories begin after middle of May, others not till first week in June. Lobsters found plentiful from second week in June until middle of July. Seasons vary.
- Victoria County—Impossible; several factories in this county did not operate this season.
- Richmond districts—Catch varies in districts; average, about 4,000 lobsters daily each factory.
- Inspector Hockin..... Overseer Wills, Cumberland County—At opening 8,000 to 10,000; later on 12,000 to 14,000.
- Overseer Murphy, Cumberland County—At opening 9,000; later on 13,000.
- Overseer Pritchard, Pictou County—At opening 40,000; later on 45,600.
- Overseer Tory, Guysboro' County—At opening 4,000; later 9,000.
- Overseer McQuarrie, Guysboro' County—About half catch before 10th May.
- Overseer Leslie, Halifax County—At opening 20,000; later 70,000.
- Inspector Kinney..... Makes no reply to this question.
- Inspector Pratt. 1,000 lobsters daily, increasing to 1,500 daily during February, and then decreasing during the remainder of open season.
- Inspector Chapman..... This varies in different places in the division, as stated before.

QUESTION No. 12.—*State what length of season is necessary to enable canneries to run profitably.*

ANSWERS :

- Fishery Officer Wakeham. Under the conditions now in force, the fishery season is as short as it can be with any profit.
- Inspector Hackett..... About forty-five working days.
- Inspector Bertram..... For Counties of Inverness, Cape Breton, and Victoria—From opening of season until 31st July. For Isle Madame, Richmond County—From opening of season to 15th July ; from L'Ardoise east, from opening of season until 25th July.
- Inspector Hockin..... Overseer Wills, Cumberland Co.—To 1st August. Overseer Murphy, Cumberland Co.—Present time, or to 10th July. Overseer Pritchard, Pictou Co.—1st May to 15th July. Overseer Tory, Guysboro' Co.—To 15th July. Overseer McQuarrie, Guysboro' Co.—Not less than two months. Overseer Leslie, Halifax Co.—To 10th July, if fine weather. Overseer Rowlings, Halifax Co.—To 1st July, and also month of October. Overseer Fitzgerald, Halifax Co.—To 1st July and also from 1st September to 1st November.
- Inspector Kinney..... Sixty days under present regulations.
- Inspector Pratt..... As the season is at present, canneries could run profitably.
- Inspector Chapman. The canners and fishermen vary, from 1st May to 15th July.

QUESTION No. 13.—*State smallest and largest size of lobsters caught in your division during the season of 1890, as compared with previous years.*

ANSWERS :

- Fishery officer Wakeham.. Opinion of Overseers and disinterested parties is, that for last three years there has been no falling off in size. In the Bay Chaleur the average size has increased since 1888. Largest lobsters taken off Anticosti (new ground) average two to 1lb tin ; biggest lobster taken weighed 14 lbs.
- Inspector Hackett..... Generally the smallest size in 1890 would be about 8 inches in length and the largest about 11 inches. As compared with three years ago, this would show an increase of about 1 inch on the smallest and largest sizes.
- Inspector Bertram..... In Inverness County the size for 1890 was about 10 per cent. above the average as compared with the three preceding years, i.e., for the largest and smallest lobsters above an average for that period. In Cape Breton County—Smallest $9\frac{1}{2}$ inches ; largest 12 inches. Size and quality compare favourably with previous years.

ANSWERS :

- In Victoria County—9½ inches smallest lobsters taken ; 11 inches about largest. No noticeable change in size as compared with previous years.
 In Richmond County—Smallest lobsters taken at factories 9½ inches ; largest 12 inches.
- Inspector Hockin. Smallest 7 inches ; largest 14 inches.
- Inspector Kinney..... The average during 1890 seems to be larger than in other years.
- Inspector Pratt..... None smaller than 9½ inches are taken from traps, although thousands are met with under that size, and run up to 15 and 16 inches in length ; but run smaller than in past years.
- Inspector Chapman..... The average was generally larger than in 1889, and considerably larger than in 1888.

QUESTION No. 14.—*Also state average size, as compared with previous years.*

ANSWERS :

- Fishery Officer Wakeham. See his answer to Question 13.
- Inspector Hackett..... The average size has increased about 1 inch last three years, being then about 7 inches for the smallest and ten for the largest ; now about 8 and 11 inches, respectively.
- Inspector Bertram... .. In Inverness County—10 per cent. above average.
 In Cape Breton County—Size same ; average as former years.
 In Victoria County—Apparently the same.
 In Richmond County—No noticeable change in size of lobsters as compared with previous years.
- Inspector Hockin..... Overseers Wills and Murphy, Cumberland County, report average size larger this year.
 Overseer Pritchard, Pictou County—Better than last four years.
 Overseer Tory, Guysboro' County, reports average size about the same.
 Overseer McQuarrie, Guysboro' County, reports somewhat smaller.
 Overseer Fitzgerald, Halifax County, reports average size about the same.
- Inspector Kinney..... The average size during 1890 seems to be larger than in other years.
- Inspector Pratt..... Average about 10 inches in length, and numbers and size decreasing annually.
- Inspector Chapman..... A general improvement in past two years, especially in 1890.

QUESTION No. 15.—*How many lobsters did it take to fill a pound can in 1890 ?*

ANSWERS :

- Fishery Officer Wakeham. At Magdalens average was 4½ ; during first four weeks of season average 3½ ; towards close of season, this falls to 5. On the mainland average is better, say, for whole season, 4, and from Port Daniel west, say, average is about 3.

ANSWERS :

- Inspector Hackett..... On an average, about 6 lobsters. In some factories 4 lobsters filled a 1-pound can, while in others 7 were required.
- Inspector Bertram..... Inverness County—5 on an average. Some days as low as $4\frac{1}{2}$ lobsters, taking the whole catch for the day, on an average, would fill a can. Other days it would take $5\frac{1}{2}$ lobsters to fill a 1-pound can.
- Cape Breton County—Size, season and localities vary. Some districts, 4 to 1-pound can; other districts, from 5 to 6.
- Victoria County—Districts vary; average from 4 to 6 to fill a can.
- Richmond County,—From 4 to 6.
- Inspector, Hockin..... From $4\frac{1}{2}$ to 5.
- Inspector Kinney..... About $4\frac{1}{2}$ fish.
- Inspector Pratt..... Canning not carried on in this division.
- Inspector Chapman..... About 5 on an average.

QUESTION No. 16.—*Is the regulation fixing the minimum length at $9\frac{1}{2}$ inches well observed; and are all lobsters under the size returned to the water?*

ANSWERS :

- Fishery Officer Wakeham. It is not well observed. Many lobsters are canned between 9 and $9\frac{1}{2}$ inches; not many under 9 inches.
- Inspector Hackett..... The regulation fixing the minimum length is not very well observed, as the fishermen kill large numbers of short lobsters at the traps and throw them overboard.
- Inspector Bertram..... Inverness County—Fairly well. Lobsters under that size are, as far as practicable, returned to the water alive; all fines imposed were for having undersized lobsters.
- Cape Breton County—Yes; where factories are closely watched by officers.
- Victoria County—Yes; fairly well, as far as officers can ascertain, but factories require to be closely watched.
- Richmond County—Fairly well; as far as officers can ascertain, the majority of fishermen are disposed to return small lobsters to the water.
- Inspector Hockin..... Overseer Wills, Cumberland County, says: As far as he could observe—Yes.
- Overseer Murphy, Cumberland County, says: Are reported to secrete small ones from officers.
- Overseer Pritchard, Pictou County—Not by fishermen, unless compelled to.
- Overseer McPhie, Pictou County—Not well observed.
- Overseer Tory, Guysboro' County—I don't think it is; some are, if Inspector is expected.
- Overseer McQuarrie, Guysboro' County—No; avoided as much as possible.
- Overseer Leslie, Halifax County—No; a great many fishermen do not.

ANSWERS:

- Overseer Rowlings, Halifax County—No; about one-eight returned to water.
 Overseer Fitzgerald, Halifax County—No; if they can evade the law they will.
- Inspector Kinney..... No.
 Inspector Pratt..... The regulation is well observed, and undersized lobsters are returned to the water.
 Inspector Chapman Fairly well; do not return all under 9½ inches, especially when officers are not on hand.

QUESTION No. 17.—*Are fishermen, as a rule, careful to liberate berried and soft-shell lobsters?*

ANSWERS:

- Fishery Officer Wakeham. Soft-shelled lobsters are always returned to the water. Many fishermen have a practice of knocking off the berries by slapping the extended tail of the lobster smartly on the water. A man with the knack can do this very quickly and completely.
- Inspector Hackett..... Not as a rule. Some are very particular in liberating them *alive*, while others, on account of the trouble they give in getting back into the traps and destroying the bait, kill them; but generally, if the Wardens are not energetic in visiting the factories, they are landed and canned.
- Inspector Bertram..... Inverness County—No; required to be watched.
 Cape Breton County—In some cases, but many fishermen will remove berries and sell to packers who cannot detect real condition of the fish.
 Victoria County—No; many fishermen are known to take spawn lobsters and remove berries before bringing them to factory.
 Richmond County—The majority of them are, but they require to be watched.
- Inspector Hockin... Overseer Wills, Cumberland County—Yes.
 Overseer Murphy, Cumberland County—Fears not, but cannot say for certain.
 Overseer Pritchard, Pictou County—No; they brush off the spawn.
 Overseer McPhie, Pictou County—Yes.
 Overseer Tory, Guysboro' County—No; the berries are brushed off.
 Overseer McQuarrie, Guysboro' County—Yes, as a rule; many exceptions.
 Overseer Leslie, Halifax County—Yes, generally. A great many taken by some.
 Overseer Rowlings, Halifax County—No.
 Overseer Fitzgerald, Halifax County—No.
- Inspector Kinney..... Yes.
 Inspector Pratt..... They are, as a rule, very careful.
 Inspector Chapman..... As a general rule, I believe they are.

DEB: QUESTION No. 18.—*What is the proportion in the catch of lobsters measuring; (a) Over 9½ inches in length; (b) Nine and a half inches in length; (c) Less than 9½ inches in length?*

ANSWERS:

- Fishery Officer Wakeham. On Magdalen Islands—(a) 60 per cent.; (b) 30 per cent.; (c) 10 per cent. On mainland—(a) 80 per cent.; (b) 10 per cent.; (c) 10 per cent.
- Inspector Hackett..... (a) 40 per cent.; (b) 45 per cent.; (c) 15 per cent. These figures may fluctuate, but after careful calculation I estimate them as being as near as possible to the correct proportions of the catch.
- Inspector Bertram Inverness County:—(a) 38 per cent.; (b) 40 per cent.; (c) 22 per cent.
Cape Breton County:—(a) At districts of Gabarous, Forchu and L'Archeveque, 50 per cent.; (b) From Garbarous to Cow Bay, 40 per cent.; (c) From Cow Bay to Point Aconi, 35 per cent.
Victoria County:—(a) 50 per cent.; (b) 20 per cent.; (c) 30 per cent.
Richmond County:—(a) 45 per cent.; (b) 40 per cent.; (c) 15 per cent.
- Inspector Hockin (a) About 50 per cent.; (b) About 22 per cent.; (c) About 28 per cent.
- Inspector Kinney..... (a) Say 30 per cent.; (b) Say 30 per cent.; (c) Say 40 per cent.
- Inspector Pratt..... (a) $\frac{2}{3}$ of catch over 9½ inches.; (b) $\frac{1}{3}$ of catch measures about the legal size.; (c) None are taken by our fishermen.
- Inspector Chapman It is impossible to answer this correctly, but I believe this season a large proportion were up to the standard.

QUESTION No. 19.—*What has been the range of prices for live lobsters and canning lobsters for 1890, and how do they compare with those of the past four seasons?*

ANSWERS:

- Fishery Officer Wakeham. From \$1 to \$1.25 per 100.
- Inspector Hackett. Lobsters for canning purposes are generally purchased by the hundred—the fishermen receiving 25 cents per 100 for them delivered at the factory—the owners of the factory supplying boats, traps, bait and board. The price has been the same last four seasons.
- Inspector Bertram Inverness County—From 70 to 90 cents per hundred pounds of live lobsters, an increase of 20 per cent. as compared with the past four seasons.
Cape Breton County—The rule in this county is: Packers furnish all gear to fishermen, and pay them from 75 cents to 90 cents per 100 lobsters. Average, about 15 cents over previous years.
Victoria County—Prices vary; some packers pay more than others. Average, about 75 cents per hundred.
Richmond County—From 80 cents to \$1.25 per hundred. Higher rate than paid for last four years.

ANSWERS :

- Inspector Hockin Overseer Wills, Cumberland County—46 cents per 100 lbs., all found, for canning lobsters; prices a little higher.
 Overseer Murphy, Cumberland County, 45 cents per 100 lbs.; same as for several seasons.
 Overseer Pritchard, Pictou County—Better prices.
 Overseer McPhie, Pictou County—From \$7 to \$8 per case of four dozen.
 Overseer Tory, Guysboro' County—All must be alive; otherwise, not fit for canning. Prices from \$1 to \$1.30 per 100 lbs. Past four seasons from 60 cents to \$1.
 Overseer McQuarrie, Guysboro' County—\$1.30 per 100 lbs.; every year getting higher. Commenced at 40 cents per 100 lbs.; now \$1.30.
 Overseer Leslie, Halifax County—From \$1 to \$2. A gradual incline in past four years.
 Overseer Rowlings, Halifax County—\$1 to \$1.25 per 100 lbs., being about 15 per cent. higher.
 Overseer Fitzgerald, Halifax County—\$4 per 100 for live lobsters for export; \$2 for 100 fish for canning—highest price for years.
- Inspector Kinney.... For live lobsters, a slightly better price than for past years. For canned lobsters, 20 per cent. improvement in price.
- Inspector Pratt Prices have greatly advanced on former years, averaging from 5 to 14 cents each for those over 10½ inches, while beneath that size to 9½ inches \$1.50 per cwt. was the prevailing figure.
- Inspector Chapman..... Most all the canners employ their own men to fish, and do not buy from the fishermen. Prices for canned lobsters have been very much higher this season than usual, from 40 to 50 per cent. above the prices in 1887 and 1888.

QUESTION No. 20.—*How are lobster fishermen generally employed after the fishing season is over?*

ANSWERS.

- Fishery Officer Wakeham. Cod and mackerel fishing.
- Inspector Hackett. As a general rule they continue fishing mackerel, cod, &c., for the balance of the fishing season.
- Inspector Bertram. Inverness County—They prosecute other fishery, such as cod, hake, mackerel and herring; a small percentage attend to farming exclusively, after the fishery season is over.
 Cape Breton County—Some engage in cod, mackerel and herring fishery; others attend to farming.
 Victoria County—The majority prosecute other branches of the fishery, and some attend to farming.
 Richmond County—Engage in cod, herring and other fishing.

ANSWERS:

- Inspector Hockin. Overseer Wills, Cumberland County, says: Anything they can get to do.
 Overseer Murphy, Cumberland County—As they return to Halifax, where they belong, I cannot tell.
 Overseer Pritchard, Pictou County—Some haking; some farming.
 Overseer Tory, Guysboro' County—At other fisheries.
 Overseer McQuarrie, Guysboro' County—Those who still have nets go about fishing mackerel, herring and cod; many go to the United States to work at canning other goods.
 Overseer Leslie, Halifax County—One half at cod and other fisheries; part at illegal lobster fishing; part at various occupations.
 Overseer Rowlings, Halifax County—Majority at other fisheries; some at mines and mills, and some continue to catch lobsters illegally.
 Overseer Fitzgerald, Halifax County—At other fisheries.
- Inspector Kinney. Many finish the season at net fishing; nearly all are small farmers.
- Inspector Pratt. Hand-lining, trawling, weir, and net fishing.
- Inspector Chapman. Various—some at deep-sea fishing; some farming; others lumbering, milling, &c.

QUESTION No. 21.—*Is the supervision at present in force sufficient to ensure a fairly good observance of the law? If not, what suggestions can you make to attain that end?*

ANSWERS:

- Fishery Officer Wakeham. It is not: we want more Overseers constantly at work. Fishermen and canners who are strict in the cull complain that their neighbours take and use small lobsters when they are not watched.
- N.B.—It is the very general opinion at the Magdalen Islands that fishing in the lagoons should be stopped. The lobsters go in late into the lagoons, and since the shortening of the season to the 15th July lagoon-fishing has been greatly curtailed. These lagoons, where the water is shoal and warm, would seem to be the natural breeding grounds of the fish.
- Inspector Hackett. The supervision at present in force ensures a fairly good observance of the law, but it could be improved by paying the Wardens a higher salary and compelling them to give more attention to their duties.
- Inspector Bertram. Inverness County—Yes; the officers are vigilant, but more are required where factories have been established in out-of-the-way places.
 Cape Breton County—Certain districts require more supervision, as some factories are situated in out-of-the-way places, and require special officers to make daily visits.

ANSWERS :

- Victoria County—Supervision sufficient, excepting district of north shore, where services of special officer are required.
- Richmond County—In some districts it is not sufficient. Would recommend special officer for certain factories during lobster-fishing season.
- Inspector Hockin..... Overseer Wills, Cumberland County, says: Yes.
- Overseer Murphy, Cumberland County—Should be a regulation trap, that would not retain small lobsters. Every cannery should pay a license and have its own ground laid off.
- Overseer Pritchard, Pictou County—Thinks not.
- Overseer McPhie, Pictou County. Recommends the placing of a Guardian at each factory during fishing season.
- Overseer Tory, Guysboro' County—Suggest all canneries should be licensed, and pay a fee for the same, and an officer to be stationed at each during the fishing season, and every case be branded by that officer before it leaves the cannery. All cases not so marked should be confiscated.
- Overseer McQuarrie, Guysboro' County—Thinks not. There should be a man at each factory to inspect fish as they are weighed out of boats when they are brought in. Every cannery to pay a license.
- Overseer Leslie, Halifax County—There are not enough officers appointed to guard against all illegal work.
- Overseer Rowlings, Halifax County—An Overseer, with the assistance of two good men, reliable and active, could have the law observed.
- Overseer Fitzgerald, Halifax County—As far as his district is concerned, it is.
- Inspector Kinney..... No.
- Inspector Pratt..... The supervision at present in force is sufficient to enforce the fishery laws.
- Inspector Chapman As good as can be had without a much larger expense, by placing a watchman in charge of each batch of canneries. This would require twenty-five or thirty special guardians for about ten weeks.

APPENDIX No. 9,

BEING AN APPENDIX TO MINUTE OF PRIVY COUNCIL, 22ND MAY, 1890, ON THE USE OF PURSE SEINES FOR THE CAPTURE OF MACKEREL.

Commander Lavoie, of the Government Fisheries Protection steamer "Lady Head," in his report for 1878, Supplement No. 4 to the Eleventh Annual Report of the Minister of Marine and Fisheries, 1878, p. 64, said:—

"It can easily be imagined what terrible havoc these 350 purse seines must make when engaged during two or three consecutive months in sweeping the same grounds. Nothing can escape them, and it is admitted by American fishermen themselves that a schooner making her catch with these fishing engines destroys an equal number of young herring and mackerel. These seines ought, in my opinion, to be forever banished from our waters, and their use especially prevented in the small bays where fish are wont to go for the purpose of depositing their eggs, and where they breed and grow." * * *

Dr. Wakeham, Commander of the Government Fisheries Protection steamer in the Lower River and Gulf, during the season of 1879, Supplement No. 2 to the Twelfth Annual Report of the Minister of Marine and Fisheries, 1879, p. 56, Appendix No. 3, said:—

"These seines, besides destroying wastefully an immense quantity of fish that is never saved, breaks up the schools and frightens the fish off the coast. Such, at all events, is the opinion of those best fitted to judge among our fishermen."

Fishery Inspector Duvar, for the Province of Prince Edward Island, for the year 1879, Supplement No. 2 to the Twelfth Annual Report of the Minister of Marine and Fisheries, 1879, p. 265, Appendix 15, said:—

"As regards the much vexed question of seining, it is historical that craft fitted out for fishing on the coasts of Massachusetts and Maine, as recently as 1863, used seines only for the purpose of taking 'porgies' for mackerel bait up to 1868, (or say 1870) when the practice was entered into on a large scale in American waters for the taking of mackerel. Up to that season, it is stated, vessels could each take 400 to 1,000 barrels per season with hook and line, but after seining had prevailed only up to 1873, 300 barrels per season would be all the hook-and-linesmen could take, while the seiners, even in the face of the diminishing supply, would capture full cargoes of large mackerel, besides each vessel netting a surplus of 1,000 barrels of small fish which they made no use of. The supply of large fish becoming scanty the American fleet tried their fortune with seines in the Canadian waters of 'the bay.' Here it was their object to take only such first quality fish as would fetch a high price in the United States' markets, the smaller fish not leaving any margin for profit. Now, the established fact that in ordinary fishing weather, each long seine may, and usually does, draw to the vessel's side 20 to 100 barrels of small herring and mackerel, over and above large ones, affords a basis on which to make calculation of the value of the fishery in which foreigners share, and of the destruction done to such fishery. Thus, 300 sail set their seines twice a day during, say, forty fishing days, or 16,000 times; and, with even the proverbial fisherman's luck, take at each cast of the seine from the waters to perish, make no use of and throw over-board, only 15 barrels of fish of smaller size than they require—this is putting it at the lowest conceivable figure—the result shows at least 240,000 barrels of fish at, say, \$2 per barrel or \$480,000 of injury done to the Gulf fishery in six weeks of actual time. I am aware there are persons capable of judging who may even consider the estimate far too low.

"Advices, supposed to be reliable, state that the average number of 250 schooners, or more, fitted out, most of them with seine boats and seines, from Gloucester and other American ports for the Canadian waters this spring. When they arrived they found the fish, although schooling freely, were of small size, which fact, it may be imagined, did not lessen the number of those under 11 inches in length that would be thrown overboard before a cargo of prime fish fit to bring a high price could be secured."

Supplement No. 2 to the Eightieth Annual Report of the Minister of Marine and Fisheries, "Fisheries Statements," 1880, Appendix No. 3—Fishery Officer Wakeham's report for 1880:—

"There is no doubt that some years ago the mackerel was so much disturbed by the hosts of American schooners, with their destructive purse seines, that this fish was driven off the coast. During the past three years we have seen fewer American vessels, and now the mackerel are frequenting their old haunts in greater numbers. This season they were seen schooling in great quantities, all the way from Cape Chatte to Maguasha Head."

Mr. W. H. Venning, late Inspector of Fisheries for New Brunswick, in his report for 1886, Third Annual Report of the Department of Fisheries, 1886, Appendix No. 4, says:—

"There seems good grounds for the fears expressed by many of the old fishermen that the general use of purse seines in Bay of Chaleurs will be very destructive to the mackerel and herring fisheries. There is no doubt that the destruction of young mackerel along the American coast from the use of these seines is enormous, and the same destruction will probably follow their general use by our fishermen. Mr. B. P. Chadwick, of Bradford, Mass., who has been investigating this matter with great care for many years, thus writes Professor Baird, head of the United States' Fish Commission:

"The present method of our fishermen in seining mackerel is such that while taking over 500,000 barrels of good, sizable fish, it causes a total destruction of over 1,000,000 barrels of young fish that have grown to one-third the usual size of fully matured fish. Could this number of fish be protected and caught when full grown the amount would be 3,000,000 barrels; and, at the present price of No. 1 mackerel (\$15 per barrel), the amount of \$45,000,000 worth of fish-food is no small item to our people. The hay crop of Maine, New Hampshire, Vermont and Massachusetts is 3,150,000 tons. The crop has a market value of \$37,800,000. Now, if the farmers should destroy the hay crop annually the effect upon agriculture in these States would be disastrous; and yet the present method of seining mackerel destroys \$45,000,000 worth of food-fish, and scarcely a voice is raised against it. Mackerel vessels carry from two to four seines each. I have known a single seine destroy 150 barrels of young mackerel in a day in the taking of 30 barrels of marketable fish. If one seine does injury to this amount in a single day, what must be the effect of using the seines of a mackerel fleet of 400 vessels for ninety days? The ocean is large and mackerel are prolific. The spawn of a single mackerel is nearly 500,000. Were it not for these two facts the end of mackerel fishing would soon be reached. As it is, the catch of No. 1 fish is small, there being scarcely any in the market, and these few selling at an exorbitant price. This condition is caused by the destruction of the young fish."

Inspector Bertram, Cape Breton, in his report for 1888, Fifth Annual Report of the Department of Fisheries, 1888, p. 49, says:

"Herring has proved the staple branch of the Cape Breton fisheries for the year 1888. With two or three minor exceptions, the herring fishery turned out remunerative to a degree that went far to compensate for the loss in other branches. Considering the value of herring as an article of profitable foreign commerce, and as a staple of food for home consumption, the wanton destruction of thousands of barrels of fish on the coasts of this island annually, thrown back in the sea by mackerel seiners, is a most serious matter in the economy of one of the most valuable natural resources of this country. This point will be found more fully referred to in this report under the heading of 'Destructive Methods of Fishing.'"

"DESTRUCTIVE METHODS OF FISHING AND WASTE OF FISH-FOOD."

This is a subject which requires serious consideration and prompt action in the application of prohibitive measures, if our present coast fisheries are to be saved from extinction. The two principal agencies in this work of destruction and waste are:—

Purse seining and trawling.

Against these two agencies of mischief our boat fishermen send up a united and universal protest. With fishermen of the United States and those of the Provinces, hand line fishing is now superseded by the use of seines and trawls. Both are destructive to fish, and the numbers now engaged in these methods of fishing are greatly in excess of all reasonable demands on the utmost possible fish-producing powers of this or any other coast of equal extent.

Purse seining is liable to the following objections:—

1. When a seine is thrown amongst a school of mackerel or other fish the school is broken up and scared, so that what escapes from outside the seine enclosure is scared and makes off to deep water for a refuge. This effectually destroys all chances of boat fishermen, who depend on hand-lines and ordinary nets, for a share of the broken schools.

2. When, for instance a seine is thrown for mackerel, it encloses the fish of every kind within its great area, and the aggregate quantity of these varieties are frequently much greater than that of the fish sought to be entrapped, including the small, valueless fish as well as the large.

3. When the seine is closed, and the work of taking out commences, all kinds of fish, large and small, good and bad, which are not of the grade sought, are thrown dead into the sea, thus polluting the bottom to an extent which repels living fish from its proximity. By this method thousands of barrels of herring and hundreds of quintals of cod, including bait and other fish, are destroyed, and boat fishermen, who are depending on them for a supply, are deprived of all participation in the catch.

4. The large quantities thus destroyed in the seining process is far beyond the powers of nature to sustain by reproduction, consequently, the fishing grounds are being rapidly depleted of their tenants.

Mr. J. H. Duvar, late Inspector of Fisheries for Prince Edward Island, in his report for 1888, Fifth Annual Report of the Department of Fisheries, 1888, Appendix No. 4, says:—

"As to the outcry against seining, which has this year been particularly loud, there may be something in it. The effect of 250 fast-sailing vessels chasing the fish all day long can well be imagined. Without going into the doctrine of heredity that continual prosecution develops a new instinct in animals, even in fish, it would almost seem as if the mackerel of the Gulf are growing more wary and shy. Little else can be expected where the fish schools, wherever found, are instantly broken up and the alarmed fish that escape the meshes make off in wild alarm for miles before they become quiet again. Among these fugitives the hook-and-line fishermen have a poor chance. But the evil is not remediable."

Mr. W. H. Venning, late Inspector of Fisheries for New Brunswick, in his report for 1888, Fifth Annual Report, Department of Fisheries, 1888, Appendix No. 3, said:—

"The failure recorded last year in the mackerel fishery has again occurred, and this year is more complete. In 1880 the catch was 19,650 barrels and 66,427 cans. In 1886 the catch was 17,868 barrels and 70,128 cans. In 1887 only 3,607 barrels and 44,278 cans were caught. After making all allowance for the alleged erratic and uncertain movements of mackerel, their pelagic wanderings and changing habitat, so great a decrease in a few years would indicate some general and hitherto unknown cause. In my opinion, based on many years observation, extensive reading and converse with old and experienced mackerel fishers, the causes are: 1st. The great destruction by purse seines of gravid parents and half-grown young fish; 2nd. The failing supply of food in Bay Chaleur and the Straits, consequent on the great destruc-

tion of smelts, frost fish and flounders in all the counties bordering these waters, where alone this fish is pursued by our fishermen. The myriads of young fry which formerly crowded all our estuaries and afforded the kinds of food that the mackerel seeks inshore, are no longer there. The waters are depleted of this food; consequently, the schools are no longer attracted to the in-shores. We see the same result in American waters, where purse seines have destroyed the gravid parents and immature young fish, and the porgies on which they feed. The scarcity of mackerel in American waters, continued with the continued demand for them, has led to the importation of large quantities from England, whence the future supply will probably come. While purse seines and bag-nets are allowed without restriction, I can see no reasonable hope of any improvement in the mackerel fishery. My present conviction is that there should be a close time to cover the spawning season, and that purse seines should be prohibited in Canadian waters. I have seen our salmon, shad, bass, alewives, oysters and lobsters all dwindling away for want of protective laws, and now the most valuable fish of all is being exterminated by the unrestricted use of destructive implements and the wanton waste of spawning fish."

Lieutenant A. R. Gordon, R.N., in his report for 1888, Fifth Annual Report, Department of Fisheries, 1888, Appendix "A," said:—

"The purse seine is a large fine mesh net, made out of tarred cotton twine. These nets were at first both clumsy and costly, but of late years not only has the net been made simply perfect, but the price has been put at such a figure that they have been adopted by Canadians more extensively, and entirely by United States fishermen. The basis of this fishery is a schooner carrying two seines and two seine boats; the seines are called the deep and shallow seines, the one being about 15 and the other about 10 fathoms deep.

"The relation between the reduced productiveness of our mackerel fishery and the adoption of the purse seine is one of the problems now most urgently presented for solution.

"In protecting a fishery the required conditions are: 1st. Proper means must be used for the capture of fish; 2nd. These means must only be used at a proper times, and the question then arises: is the purse seine a proper means of prosecuting the fishery, when used as it now is?

"In order to prevent the harassing of the schools of unspawned fish on the United States coast, a law was passed by Congress prohibiting the landing in the United States of mackerel caught with a purse seine before the 1st June in any year—thus in practice admitting that the use of the purse seine prior to that date was liable to injure the fishery. The condition of the fish which prevails on the United States coast up to 1st June is precisely that of the Gulf of St. Lawrence up to, say, 20th July, and therefore this date of prohibition, which may afford adequate protection to the fish on the United States coast, affords none to those on ours. But the point is none the less established that a Government, whose ruling principle of fishery legislation has been to interfere as little as possible with the liberty of the fishermen, has definitely concluded that the purse seine, used prior to the spawning season, is injurious to the fishery."

Again, having further reference to this subject, Lieutenant Gordon, R.N., in a special report in 1888, said:—

"It frequently happens that large numbers of undersized and unmerchantable fish are thus enclosed with a small percentage of good fish, so that in order to save the few the large numbers which might have grown into real value are uselessly and ruthlessly destroyed. In this way also quantities of herring have frequently been destroyed, as they are of no use to the fishermen.

"The most serious damage which the purse seine does to the fish is, however, not the capture of young and immature fish, but the killing of the parent fish by fishing at improper times, before spawning. If all the parent fish which come into the Gulf annually were allowed to spawn peacefully, the damage done to our fishery * * * would be greatly minimized. * * *

"I am myself of opinion that nearly half of the catch made by seines in the Gulf is that of unspawned fish, and this destruction of parent fish at improper times, together with the wholesale and useless destruction of immature fish is what has brought about the present depleted state of the mackerel fishery.

"That the use of the purse seine at improper times lies at the root of the evil is the belief of nine out of ten of those whom I have interviewed, and who have the means of judging; and this fishing, instead of being a steady working fishery, such as it used to be in the old hook-and-line days, has now become a sort of steeple chase and lottery business, in which there are few prizes and many blanks; and the feeling among these men was well expressed to me by the captain of one of our Nova Scotian vessels, who said: 'All I want, Sir, is one day at the fish with these prices; I ask no more.' The majority of those interested are in favour of the total abolition of the purse seine, but as long as some continue to use it others must, in self-defence, do the same. No remedy can be effectual which is limited in its operation to the three-mile limit, for mackerel spawn, like that of the codfish, floats on the surface, and the fish prior to spawning feed at all distances from the shore."

Inspector A. C. Bertram, in the Annual Report of the Department of Fisheries, 1889, Appendix No. 3, p. 50, says:—

"THE CHIEF AGENTS WHICH CAUSE SHORTAGE OF CATCH.

The first and principal of these causes, the fishermen are everywhere unanimous in agreeing upon—that is, the shore fisheries are being ruined by purse seine fishing, as well as by trawl or set-line fishing * * * *

"The consequence is, that the schools are broken, and such as escape the seines are scared away and lost to further capture by the boat fishermen. The mischief does not end here, for on being enclosed in seines at least 50 per cent. on an average of the fish are of kinds not wanted. This residue is taken out dead, thrown back into the water, and to this mass of dead, rotting matter are added the offals or cleanings from the fish retained, by which a large area of bottom is strewn, by aid of wind and tide, with tons upon tons of putrid matter, which repels all approaching schools for the remainder of the season. This process repeated upon the same grounds and within the same bays, year after year, destroys the fish beyond the powers of reproduction; and the condition of the waters, together with repeated scaring aways, leads the fish by degrees to abandon these places for other grounds. There is now no more firmly or accepted fact than that the fish shun filthy and polluted waters, just as graminivorous animals of land avoid filthy pastures whenever they can, by seeking out cleaner grounds. That fish will flee from tainted bait, in place of being attracted by it, is known to everyone, and is a great illustration of the aversion of fish to contact with putrid or even tainted matter. Out of a haul of 500 barrels by a purse seine, from 200 to 250 barrels will be rejected, and is thus lost to food and commerce, besides being thrown out dead, to pollute the waters and the bottom. This putrid mass will be largely increased by offals from the retained fish being thrown in after it * * * *"

Overseer Duncan Cameron, of St. Peter's, reports a decrease in very branch of deep-sea fishery excepting alewives. This falling off is not attributable to local causes or to a less vigorous prosecution of the industry, but to the fact that on the approach of fish inshore in the spring they are frightened away by American and Canadian seiners. This cause of the decrease in the fishery is also entertained by the most experienced fishermen of this district. A Regulation prohibiting the use of Purse seines and trawls inshore much wanted * * *

Overseer Duncan McDonald, of Aspy Bay, says:—

"A great many mackerel were taken this year by hook-and-line, and it is a pity that this ancient and successful mode of fishing was not generally practised. It certainly would be more profitable for the local fisherman and far better for the fishery. Nothing is so calculated to destroy this fishery as the wholesale destruction

caused by seines. Had it not been for seining, the mackerel fishery would have been 50 per cent. better. The schools were broken up and the fish frightened away."

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Report of Lieut. A. R. Gordan, 1889. Report of the Department of Fisheries for the calendar year 1889. Part III, page 6.

THE MACKEREL FISHERY OF 1889.

The United States mackerel fleet which visited the Canadian waters during the season of 1889 consisted of sixty-two vessels, their catch being recorded in the table subjoined. In the cases when a vessel made two trips a double row of figures indicates the catch in each voyage:—

| Name. | Port. | Catch. | Name. | Port. | Catch. |
|----------------------------|-----------------|--------|------------------------|-----------------|--------|
| | | Bbls. | | | Bbls. |
| Ambrose H. Knight..... | Gloucester..... | ..... | John W. Campbell..... | Gloucester..... | 35 |
| A. R. Crittenden..... | do..... | 250 | John M. Plummer..... | Portland..... | ..... |
| Augusta E. Herrick..... | Boston..... | ..... | Lizzie M. Center..... | Gloucester..... | 90 |
| Alice C. Jordan..... | Gloucester..... | 231 | do..... | do..... | 110 |
| Agnes..... | do..... | 50 | Lizzie W. Hannum..... | do..... | 40 |
| Bluejacket..... | do..... | 9 | Leona..... | do..... | 5 |
| do..... | do..... | 168 | Mayflower..... | do..... | 425 |
| Belle Naus..... | do..... | 280 | Marion Grimes..... | do..... | 40 |
| Belle Franklin..... | do..... | 47 | M. L. Wetherell..... | do..... | 290 |
| Chas. Levi Woodbury..... | do..... | 7 | Moro Castle..... | do..... | ..... |
| do..... | do..... | 190 | Margie Smith..... | do..... | ..... |
| David F. Law..... | do..... | 14 | Northern Eagle..... | do..... | ..... |
| Davy Crockett..... | do..... | 80 | Orient..... | do..... | 200 |
| D. A. Wilson..... | do..... | 51 | Procyon..... | do..... | 0 |
| Edith Rowe..... | do..... | 213 | do..... | do..... | 180 |
| Ernest F. Norwood..... | do..... | 34 | Rushlight..... | do..... | 50 |
| Elsie M. Smith..... | Portland..... | 5 | Rapid Transit..... | do..... | 0 |
| Epes Tarr..... | Gloucester..... | 50 | do..... | do..... | 180 |
| Enola C..... | do..... | 150 | Rattler..... | do..... | 50 |
| Emma W. Brown..... | do..... | 330 | Robin Hood..... | do..... | 50 |
| Eastern Queen..... | do..... | 105 | S. F. Maker..... | do..... | 270 |
| Electra A. Eaton..... | do..... | 272 | Senator Saulsbury..... | do..... | 110 |
| Ellen Lincoln..... | do..... | ..... | Senator Morgan..... | do..... | 30 |
| Flash..... | do..... | 114 | do..... | do..... | 140 |
| Flora Dilloway..... | do..... | 80 | Sterling..... | do..... | 30 |
| do..... | do..... | 120 | Star of the East..... | do..... | 160 |
| Geo. F. Edmonds..... | Portland..... | 32 | W. H. Foye..... | do..... | 23 |
| Governor Butler..... | Gloucester..... | 140 | W. H. Wellington..... | do..... | ..... |
| G. P. Whitman..... | do..... | 60 | do..... | do..... | 95 |
| Herald of the Morning..... | do..... | ..... | W. W. Rice..... | do..... | 93 |
| Henry Wilson..... | do..... | 28 | do..... | do..... | 153 |
| do..... | do..... | 48 | Willie Irving..... | do..... | 30 |
| Harry G. French..... | do..... | 150 | W. D. Daisley..... | do..... | 113 |
| Isaac A. Chapman..... | do..... | 190 | W. H. Oakes..... | do..... | 98 |
| J. S. McQuinn..... | do..... | 95 | Wm. M. Gaffney..... | do..... | ..... |
| J. J. Clark..... | do..... | 72 | | | |

Sixty-two schooners. Total take 6,775 bbls.

The following is the take of mackerel for the years 1888 and 1889, made by United States' fishing vessels off the Nova Scotian coast and in the Gulf of St. Lawrence:—

1888—83 vessels, take 10,418 bbls., average 126 bbls. per vessel.
 1889—62 do 6,755 do 109 do

So far as the New England fleet are concerned, both in the Gulf and on the Nova Scotian and New England coasts, the mackerel season has been an unprecedentedly

poor one, and the following table exhibits in a marked manner the continued decadence of the United States mackerel fishery. The returns not being yet available, the Canadian catch for 1889 is estimated, but that for the New England fleet is taken from the published returns of the Boston Fish Bureau, as stated in their circular of 13th December.

| | 1885. | 1886. | 1887. | 1888. | 1899. |
|-----------------------------|---------|---------|---------|---------|--------|
| Caught by U.S. vessel—Bbbs. | 330,000 | 80,000 | 78,000 | 40,000 | 17,794 |
| do Canadians— do | 148,400 | 152,292 | 131,653 | 65,777 | 65,000 |
| Total product.... | 478,450 | 232,292 | 209,653 | 105,777 | 82,974 |

If from the above figures for United States vessels for 1888-89 we take the quantities quoted as being taken off the coasts of Canada, the remainder will represent the quantities obtained on the fishing grounds off the New England coasts. These remainders are: for 1888, 29,572 bbbs., and for 1889 the minimum quantity of 11,219 bbbs. Figures like these need no comment.

In Canada the fishing has remained about the same as last year, and the prospects are encouraging to this extent, that large quantities of small fish have been seen during the latter part of the season, which, if not destroyed in purse seines before reaching merchantable age, will go a long way towards restoring our fishery to its normal condition of late years, if not to its former degree of plenteousness.

Our Canadian fishery shows to great advantage when compared with the mackerel fishery of the United States, and it is safe to say that, without any great increase in the means of capture, our Canadian catch has been fully up to, if not in excess of, that of last year.

The habits of the fish seem to have changed completely; they no longer herd in large schools, and play about on the surface as they feed, but small quantities of fish are found almost everywhere. At one time this year fish could be raised at any point between Miscou Island and the Magdalens, making in the whole unquestionably a vast mass of fish, but far short of the multitudes which formerly frequented the waters of the Gulf.

I cannot help thinking that the apparent change in the habits of the fish is largely due to their diminished numbers, which would naturally make them more timid. The change, however, is not without its advantage, as it tells largely in favour of Canadian methods of fishing, the success of the hook-and-line fishing and the boat fishing inshore being quite marked during the past season.

In my report on the operations of the year 1888 I went very fully into the condition and prospects of the Canadian mackerel fishery, and subsequent experience has only tended to confirm and strengthen the views expressed therein, viz., that the depletion of the mackerel fishery was largely due, not only to the use of improper means of capture, but to the use of those means at improper seasons.

The United States' Government, recognizing the importance of this fishery, has legislated very effectively to prohibit the use of the purse seine in their southern waters during the season when the mackerel are about to spawn, the law being that no mackerel caught in a purse seine between the first day of January and the first day of June in each year shall be permitted to be landed in the United States, thus using the machinery of the Customs Department to enforce a law for the protection of deep-sea fish on the high seas.

The United States' fishermen, recognizing the fact that this law is a necessity, if there is to be any future for their mackerel fishery, loyally adhere to its provisions.

Owing, however, to the geographic position of our Canadian fishing grounds, a season which will protect spawning fish on the New England coasts will not protect them on those of Nova Scotia, and the season within the St. Lawrence is later still.

I would strongly urge upon your notice the advisability of endeavouring to make an arrangement with the Government of the United States for the preservation of the mackerel fishery. The best method of protecting the fishery would be the absolute

prohibition of the use of the purse seine, and this prohibition could be made quite effectual by the passage of a law in Canada similar to that in force in the United States, but to extend over the whole year, and the extension of the United States term of prohibition to the whole twelve months. If this were done experimentally, say for a period of five years, the beneficial effects of the legislation would, I am sure, justify its enactment. But if it is thought that this measure is too drastic, then let the following fishing areas and close times be agreed upon, and laws similar to that now in force in the United States be enacted for the protection of the areas:

First, the present close season, or prohibition of the purse seine, to extend to all the waters of the north-west Atlantic. Second, that no purse seine shall be used north of the parallel of Cape Sable until after the first day of July in each calendar year. Third, that no purse seine shall be used within the waters of the Gulf of St. Lawrence until after the first day of August in each calendar year—the boundaries of the Gulf of St. Lawrence for the purposes of this law to be the line joining Bear Island and Eddy Point, Straits of Canso, and the lines joining Money Point lighthouse, Cape Breton, with the lighthouse south end of St. Paul's Island, and thence to Cape Ray lighthouse, Newfoundland. If similar laws are passed by the United States and Canada for the protection of these areas, no costly or complicated police system will be necessary: the machinery of the Customs Department in each country can easily and effectually enforce the law.

The above-named limits may be described as (1) the New England mackerel grounds; (2) the Nova Scotia mackerel grounds; (3) the North Bay ground, the latter name being that applied by the mackerel fishermen to the whole Gulf of St. Lawrence. These separate limits are easily defined, and no difficulty could arise in administering the law on the ground of difficulty of defining a limit, and the divisions proposed are those which agree most nearly with the gradations of marine climate which govern the movements of these fish.

The destruction of these migratory fish before the spawning season must result in the depletion of the fishery, and if it is desired to prevent this destruction by wholesale, the abolition of the use of the purse seine in the above limits, and for the periods mentioned, is the minimum of protection that must be insisted on; for it is a fact, capable of demonstration quite simply, that spawning or gravid fish are taken on the Nova Scotian coast up till 1st July, and though the spawning season in the southern part of the Gulf is pretty well over by 20th July in an average year, we have in these waters so much fluctuation in marine climate that there is great variation in the period of spawning. I have therefore fixed on 1st August as the date of commencement of the purse seining, to allow for a late season and to cover the more northerly portions of these waters where the spawning season is later.

Many of the masters of United States fishing vessels admit that the unrestrained use of the purse seine has ruined the mackerel fishery, but some of them being part owners of vessels and gear are indisposed to support a measure, the passage of which would practically wipe out a portion of their capital for a time. In Canada the sum invested in these seines is comparatively small, and I do not think that there would be any real opposition from Canadians to the enactment of the proposed laws for the protection of the mackerel. In fact, I consider that continued comparative productiveness of the Canadian mackerel fishing grounds as compared with those on the New England coasts is largely due (1) to the protection afforded to fishermen, by securing the inshore fishing grounds from molestation and continual harassment by a large fleet of foreign fishermen, thus affording the fish an area in which to spawn comparatively undisturbed; and (2) to the fact that Canadian fishermen have not so extensively adopted the use of the purse seine as a means of capture.

One of the best arguments in favour of the abolition of the purse seine is that many of the most experienced fishermen are already discarding the use of it, and all are relegating it to a secondary place in their operations. In the past, the mackerel schooner stood off and on, with one, two, or even three men at the masthead, looking for fish, and when a school was sighted the seine boat was manned and the school surrounded; then, after the seine was pursed the schooner sailed up alongside the

boat. To-day the *modus operandi* is entirely changed. The vessel now carries many barrels of bait, herrings, porgies and clams; these are ground up in a mill and mixed with water to the consistency of thin porridge; the vessel still carries a man at the masthead, but instead of sailing to and fro, she is allowed to drift slowly over the surface of the sea and the toll bait is constantly thrown over, two or three men meanwhile have their lines over the side, and if the fish rise to the bait and are taken on the hooks, all hands immediately get their lines over, and if the fish show in any number, the bait is kept going over steadily, the seine boat is manned and the seine quietly swept round both vessel and fish, and when the net is pursed up those left on board run the head of the jib up, the vessel pays off and rides easily and harmlessly over the cork rope, the haul occasionally amounting to a few barrels; but all the fishermen seem to admit that after sweeping the seine they have to change their ground, whilst they might have continued hooking successfully for some time longer had they not made the haul of the seine.

This purse seine fishing is in one sense like prospecting for gold or boring for oil, it being purely a speculative business, in which there still certainly remain a few prizes, but in which there are very many blanks; but each crew looks forward to making a big haul, and not to the continuous work which the hook and line fishing imposes on the men. As an instance of the prizes made, one vessel, the "Emma W. Brown," of Gloucester, got one hundred and sixty barrels of sea-packed markerel at a single haul of her seine, which, at the extraordinary prices which have prevailed, would mean a take worth nearly four thousand dollars, or, say, upwards of one hundred dollars per man.

Another vessel, the "Mayflower," of Gloucester, made a somewhat similar haul, but these were the only two fortunate schooners in the whole fleet; yet the effect of these two hauls was to keep many of the fleet down on our coasts for some weeks later than they otherwise would have been.

One marked and of late years somewhat unusual feature of this season's fishing was the run of fine mackerel which struck in on the Nova Scotia coasts during the earlier half of November. These were exceptionally large and fine fish, and would, in some instances that come under my notice, run from 130 to 160 fish to the packed barrel. I estimate that about three thousand barrels were taken of this fall run; and as many of them were marketed fresh in ice, this run was worth nearly sixty thousand dollars to the fishermen. In some parts of the coast this lot of fish when netted were considerably damaged by squid, which actually eat the fish after they are meshed in the nets, never totally consuming a whole fish, but eating a piece out of one and then testing the flavour of a second, till in some instances quite a serious proportion of the fish were damaged.

The Canadian mackerel net fishery by boats from the shore, and the net fishery by small schooners, requires regulation. This subject will be dealt with more fully in another part of the report. Suffice it to say, that the two great points which it is desirable to attain are, first, the marking with registered marks all nets or other fishing buoys, and second, the absolute prohibition of day fishing by drift nets, say between the hours of 8 a.m. and 5 p.m.

In concluding these remarks on the mackerel fishery, I would state again that the additional experience which I have acquired only confirms my opinion as to the desirability, almost the necessity, of the prohibition, or at any rate the limitation, of the use of the purse seine.

To be really effectual, any arrangement must be of an International character; and I am of opinion that the majority of both Canadian and United States' fishermen would be willing to accept some such arrangement as that suggested, at any rate tentatively, for a period of five years, and they would readily admit that, whilst it might in the first instance be the occasion of loss to those of them who owned their seines and vessels, some such regulation of the fishing is most desirable.

PART II.

REPORT

ON THE

FISHERIES PROTECTION SERVICE

OF

CANADA.

1890.

PRINTED BY ORDER OF PARLIAMENT.



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EXCELLENT MAJESTY.

1891.

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REPORT

ON THE

FISHERIES PROTECTION SERVICE

OF

CANADA.

1890.

By Lieutenant **ANDREW R. GORDON, R.N.**

TORONTO, 30th December, 1890.

The Hon. **CHARLES H. TUPPER**,
Minister of Marine and Fisheries.

SIR,—I beg to report on the work of the Fisheries Protection Service under my command during the past season, as follows:—

The vessels forming the fleet were as shown in the table hereunder:—

| Vessel. | Commanding Officer. | Date of Commission. | Date Paid Off. |
|---------------------------|---------------------------|---------------------|----------------|
| The S. S. Acadia | Lieut. Gordon, R. N | June 20..... | November 4. |
| S. S. La Canadienne | Commr. Wakeham | do 14..... | do 12t |
| The S. S. Stanley | Capt. Finlayson | do 18..... | October 18. |
| The S. S. Dream | Capt. J. H. Pratt | January 1... .. | December 31. |
| The Schr. Vigilant..... | Capt. Knowlton | May 28..... | do 15. |
| The Schr. Connaught | Capt. Kent | June 10 | October 10. |
| The Schr. Critic | Capt. McKenzie | August 31 | do 31. |

The Customs steamer "Argus," stationed at Halifax, was also employed as occasion permitted in the Protection Service.

The S. S. "La Canadienne" was, as in former years, in the Labrador and Quebec districts, throughout the season, save that she took up the patrol station of the "Stanley" for a few days, while that ship was in port for fresh water and fuel.

The S. S. "Stanley" was at first stationed on the west end of Prince Edward Island and the New Brunswick shores up to the Bay of Chaleur, and afterwards, when the fishing fleet moved eastward to Cape Breton and the east end of Prince Edward Island, her headquarters were changed to Port Hood.

The S. S. "Dream" was employed in the Bay of Fundy and St. Mary's Bay for the protection of the herring and mackerel fisheries. The necessity for the strictest watchfulness on all parts of our coast was well exemplified on this station during the past season by the following incident. For a number of years past neither spring nor fall mackerel have been taken in the St. Mary's Bay nor the Bay of Fundy, but as will be seen by the report on the season's mackerel fishery, these fish appeared in considerable quantities, though of small size, in the bay during the past summer. No sooner was the report published by the press of the presence of mackerel in this region than a United States mackerel seiner appeared in the bay, but the prompt appearance of the "Dream" on the eastern side of the Bay of Fundy was the means of preventing any actual trespass by this vessel.

The "Acadia," and the schooners "Vigilant," "Connaught," and "Critic" were employed in the Gulf and on the Cape Breton and Nova Scotia shores in protecting the inshore fishery and in enforcing the various regulations established by the Department for the protection of the fisheries.

In speaking of the management of the vessels forming the fleet under my command, I may state that it is now regularly accepted as a marine police service, and the great difficulty we labour under is that just as the men are becoming accustomed to the necessary restraint of a wholesome discipline, and are becoming efficient in their work, they leave us, owing to the ships being paid off, and, with a few exceptions, we see no more of them. I think it would be possible to secure the desirable men year after year for a very small additional payment. If, for instance, able seamen in their first year's service with us get the wages we now pay, viz: \$18 per month, then those in a second year producing a good discharge from one of our vessels might be allowed \$19 and third and subsequent years a maximum of \$20 firemen and coal passers might, in a similar way, be augmented for three years. The wages we now pay are occasionally below the rate of wages of the port of Halifax, and we have to accept inferior men, but if this annual increment is allowed I think we should secure enough of the old hands to leaven up those that are new to the work in a very short time.

The remarks I have offered as to the desirability of retaining the services of good men among the crews of the vessels tell with much greater force when we consider them as applied to the officers of our ships.

It is most desirable, in view of the prospective permanence of the Fisheries Protection Service, to retain the services of reliable and experienced officers, who have acquired a knowledge of the routine work of the service and have a personal acquaintance with many of the fishermen, both Canadians and those of the United States.

The work of policing the shore fisheries, by which I mean the actual work of enforcing the fishery laws for the regulation of the fisheries, has this year assumed an importance second only to that of patrolling the limit against incursions by foreign fishermen; and the endeavour, during the past season, to enforce the laws relating to the lobster and other fisheries, has engaged the attention of the fleet whenever the work for which it was specially commissioned permitted its doing so. The attention which I have given to this part of our duties has convinced me of the complete inability of the fishery wardens, as at present constituted, to enforce the laws for the regulation of the several fisheries, and I am firmly of opinion that before any really effective work can be looked for the whole system of fishery wardens must be changed. Fewer men, with larger salaries and larger districts, would even if they only devoted a portion of the year to the work, be more efficient than the present system; and until some such alteration is made in the system much of the time of our ships will of necessity be devoted to this work. For the ships to do this work effectually the commanders must be men who have a thorough knowledge of the coast and the location of the factories, trap sites, &c.—in fact, the knowledge gained within the service is what makes them valuable officers. And as an inducement for desirable men to remain in the service, I would recommend that steps be taken, either to employ them for a longer time each year or to make the salaries

allowed them increase somewhat with length of service; and if arrangements could be made with the Imperial Government to allow some of the masters and officers of our service to serve once, for the sake of instruction, in some of the small vessels in the West India squadron for a few months of the winter, the experience in the habits of discipline and customs of a naval service and the knowledge of drill which they would gain would fully recompense our Government for keeping them on pay during the period of their service on board of the naval vessel; and if, say, two or three officers each year were given a course of four or five months on board a man-of-war, we would soon see the benefit of it in the increased smartness and efficiency of our service.

I desire to acknowledge here the faithful and energetic manner in which the work of the force has been carried out by both officers and men, the masters of the various cruisers having, with one exception, displayed both zeal and discretion in the discharge of duties that are certainly monotonous, but which occasionally require the display of both tact and good sense for their effectual performance.

The only seizure made of a foreign fishing vessel during the season was that of the "Davy Crockett," of Gloucester, Nelson Cantelo, master, seized in Souris for fishing from dories within the three mile limit and held in bail for the sum of \$2,500 pending the decision of the Admiralty Court. On the bail being given the vessel was released, and proceeded on her fishing voyage. The crew were allowed to remain on board their vessel during the time she was in custody, and as an instance of the good will and respect for law which characterizes all the proceedings on the part of the crews of the United States vessels, it is worthy of notice that the crew of the seized vessel assisted in navigating their vessel to Charlottetown, and on arrival there in dismantling her to such an extent as to render her safe in the custody of the constables placed in charge by the marshal of the Vice-Admiralty Court.

It is a fair evidence of the efficiency of the service that, with the exception of the vessel seized, no instance of trespass was reported to me throughout the season.

The Collector of Customs at Souris detained the schooner "Willie Irving," of Gloucester, for infraction of the Customs laws; but she was subsequently released by the Government and permitted to engage men to navigate her home, her own crew having mutinied and left her, declaring the vessel to be unseaworthy, though a survey held on the order of the United States Consul declared her seaworthy and fit for the work in which she was engaged.

FISHING LICENSES FOR FOREIGN FISHING VESSELS.

The period during which licenses were obtainable by United States fishing vessels under the so-called *Modus vivendi* expired on the 14th of February, 1890, and the Canadian Government, as an expression of good will, have, by authority of Parliament, continued the system up to the close of the current calendar year. This privilege has been largely taken advantage of, and the following is the list of vessels which have taken out licenses, together with the amounts paid by each.

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled: "An Act respecting Fishing Vessels of the United States of America" during the Year 1890.

| Name of Vessels. | Port of Registry. | Tonnage | Port of Issue. | Fee. |
|--------------------------|---------------------------|---------|----------------------|---------|
| | | | | \$ cts. |
| Annie C. Hall..... | Gloucester, Mass..... | 84 | Liverpool..... | 126 00 |
| A. M. Burnham..... | do..... | 60 | Pubnico..... | 90 00 |
| Amy Hanson..... | Boston, Mass..... | 103 | Yarmouth..... | 154 50 |
| A. T. Gifford..... | Gloucester, Mass..... | 81 | Canso..... | 121 50 |
| Abby F. Morine..... | do..... | 77 | do..... | 115 50 |
| Admiral..... | do..... | 73 | do..... | 109 50 |
| Alice L. Hawkes..... | do..... | 60 | Shelburne..... | 90 00 |
| Abbie M. Deering..... | do..... | 96 | Yarmouth..... | 144 00 |
| A. R. Crittenden..... | do..... | 81 | Souris..... | 121 50 |
| Anna H. Frye..... | do..... | 64 | do..... | 96 00 |
| Agnes E. Downs..... | do..... | 81 | do..... | 121 50 |
| Ada M. Hall..... | do..... | 95 | Canso..... | 142 50 |
| Bessie M. Wells..... | do..... | 92 | Halifax..... | 138 00 |
| Bertha May..... | do..... | 75 | North Sydney..... | 112 50 |
| Blanche..... | do..... | 79 | Liverpool..... | 118 50 |
| Bertha M. Miller..... | do..... | 42 | Shelburne..... | 63 00 |
| Carrie and Annie..... | Boston, Mass..... | 90 | Yarmouth..... | 135 00 |
| Carrie E. Parsons..... | Gloucester, Mass..... | 80 | Canso..... | 120 00 |
| Carrie W. Babson..... | do..... | 86 | Souris..... | 129 00 |
| Charles H. Boynton..... | do..... | 71 | Barrington..... | 106 50 |
| Carl Schurz..... | do..... | 68 | Port Hood..... | 102 00 |
| Charles Hashell..... | North Haven..... | 62 | Shelburne..... | 93 00 |
| Charles W. Parker..... | Gloucester, Mass..... | 54 | Yarmouth..... | 81 00 |
| Centennial..... | do..... | 110 | Canso..... | 165 00 |
| D. A. Wilson..... | Beverly..... | 86 | North Sydney..... | 120 00 |
| Dora A. Lawson..... | Gloucester, Mass..... | 119 | do..... | 178 50 |
| D. D. Winchester..... | do..... | 79 | Canso..... | 118 50 |
| Dido..... | do..... | 77 | Shelburne..... | 115 50 |
| David A. Osier..... | Mathinicus, Waldbore..... | 24 | do..... | 36 00 |
| Davy Crockett..... | Gloucester, Mass..... | 81 | Souris..... | 151 50 |
| Edward Grover..... | do..... | 73 | Port Mulgrave..... | 109 50 |
| Ellen Lincoln..... | Portland..... | 92 | Canso..... | 138 00 |
| Electa A. Eaton..... | Gloucester, Mass..... | 73 | do..... | 109 50 |
| Elsie M. Smith..... | do..... | 106 | Liverpool..... | 159 00 |
| Eliza B. Campbell..... | do..... | 95 | Souris..... | 142 50 |
| Emerald..... | do..... | 40 | Yarmouth..... | 60 00 |
| Emma E. Wetherell..... | Boston, Mass..... | 109 | do..... | 163 50 |
| Essex..... | Gloucester, Mass..... | 111 | Arichat..... | 166 50 |
| Edith L. Conley..... | Kennebunk..... | 55 | Shelburne..... | 82 50 |
| Ellen M. Adams..... | Gloucester, Mass..... | 85 | Canso..... | 127 50 |
| Fannie A. Sparling..... | do..... | 81 | Shelburne..... | 121 50 |
| Fannie W. Freeman..... | do..... | 90 | Liverpool..... | 135 00 |
| Frederic Gerring..... | do..... | 67 | Yarmouth, N.S..... | 100 50 |
| Flora Dilloway..... | do..... | 76 | Shelburne..... | 114 00 |
| Gertie May..... | Portland..... | 97 | Port Hawkesbury..... | 145 50 |
| Gardner W. Tarr..... | Gloucester, Mass..... | 63 | Digby, N.S..... | 94 50 |
| George W. Pierce..... | Portland..... | 59 | Canso..... | 88 50 |
| Gracie C. Young..... | Gloucester, Mass..... | 83 | Arichat..... | 124 50 |
| Gladstone..... | do..... | 97 | Canso..... | 145 50 |
| Gertie Evelyn..... | do..... | 81 | Arichat..... | 121 50 |
| Golden Hind..... | do..... | 70 | Canso..... | 105 00 |
| George S. Boutwell..... | do..... | 63 | Campobello..... | 94 50 |
| George B. McLelland..... | Portland..... | 63 | Liverpool..... | 94 50 |
| Grace L. Fears..... | Gloucester, Mass..... | 84 | Canso..... | 126 00 |
| Herbert M. Rogers..... | do..... | 73 | do..... | 109 50 |
| Howard Hulbrook..... | do..... | 92 | North Sydney..... | 138 00 |
| Hustler..... | do..... | 92 | Yarmouth..... | 138 00 |
| Hattie E. Worcester..... | do..... | 112 | North Sydney..... | 168 00 |
| Henry Wilson..... | do..... | 88 | Canso..... | 132 00 |
| Horace B. Parker..... | do..... | 93 | Arichat..... | 139 50 |
| Henry L. Phillips..... | do..... | 76 | Port Mulgrave..... | 114 00 |
| Hattie Maud..... | Portland..... | 86 | Shelburne..... | 129 00 |
| Hattie L. Newman..... | Gloucester, Mass..... | 93 | Canso..... | 139 50 |
| Iolanthe..... | do..... | 71 | Liverpool..... | 106 50 |
| John W. Campbell..... | do..... | 79 | Arichat..... | 118 50 |

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled: "An Act respecting Fishing Vessels of the United States of America" during the Year 1890.

| Name of Vessel. | Port of Registry. | Tonnage | Port of Issue. | Fee. |
|--------------------------|-----------------------|---------|------------------------|---------|
| | | | | \$ cts. |
| John A. Matheson..... | Provincetown..... | 146 | St. Peter's..... | 219 00 |
| J. H. Carey..... | Gloucester, Mass..... | 95 | Arichat..... | 142 50 |
| John D. Long..... | do..... | 63 | Shelburne..... | 94 50 |
| Knight Templar..... | do..... | 69 | Arichat..... | 103 50 |
| Kate and Ella..... | Bridgeport, Conn..... | 17 | Charlottetown..... | 25 50 |
| Lotta Belle..... | Provincetown..... | 91 | St. Peter's..... | 136 50 |
| Lillian A. Allen..... | Portland, Maine..... | 106 | North Sydney, C.B..... | 159 00 |
| Laura Sayward..... | Gloucester, Mass..... | 64 | Canso, N.S..... | 96 00 |
| Laura Nelson..... | do..... | 85 | North Sydney, C.B..... | 127 50 |
| Lizzie Griffin..... | do..... | 100 | Canso, N.S..... | 150 00 |
| Lizzie J. Greenleaf..... | do..... | 88 | do..... | 132 00 |
| Lizzie M. Stanwood..... | do..... | 100 | Arichat..... | 150 00 |
| Lizzie Smith..... | Provincetown..... | 73 | Port Hawkesbury..... | 109 50 |
| Lizzie W. Hannum..... | Gloucester, Mass..... | 71 | Port Mulgrave..... | 106 50 |
| Mist..... | do..... | 91 | Canso, N.S..... | 136 50 |
| Martha A. Bradley..... | do..... | 72 | do..... | 108 00 |
| Marion..... | do..... | 78 | Port Hawkesbury..... | 117 00 |
| Maud B. Wetherell..... | Provincetown..... | 102 | St. Peter's, N.S..... | 153 00 |
| Marsala..... | Gloucester, Mass..... | 76 | Shelburne..... | 114 00 |
| Mystic..... | do..... | 78 | Arichat..... | 117 00 |
| Masconomo..... | do..... | 91 | Canso, N.S..... | 136 50 |
| Monitor..... | do..... | 104 | do..... | 156 00 |
| Margaret Mather..... | do..... | 91 | do..... | 136 50 |
| Mabel W. Woolford..... | do..... | 104 | Yarmouth, N.S..... | 156 00 |
| Mary F. Wells..... | do..... | 86 | Canso, N.S..... | 129 00 |
| Maggie E. Wells..... | do..... | 80 | do..... | 120 00 |
| M.S. Ayer..... | do..... | 76 | Shelburne..... | 114 00 |
| Nellie Dixon..... | Boston, Mass..... | 106 | North Sydney..... | 157 50 |
| Nellie M. Davis..... | Gloucester, Mass..... | 89 | Arichat..... | 133 50 |
| Nellie G. Thurston..... | do..... | 81 | Canso, N.S..... | 121 50 |
| Nellie Burns..... | Portland, Maine..... | 64 | Georgetown..... | 96 00 |
| Orient..... | Gloucester, Mass..... | 89 | Port Hawkesbury..... | 133 50 |
| Porter S. Roberts..... | do..... | 72 | Canso, N.S..... | 108 00 |
| Procyon..... | do..... | 107 | Liverpool..... | 160 50 |
| Paul and Essie..... | do..... | 64 | Lunenburg..... | 96 00 |
| Reub. L. Richardson..... | do..... | 92 | North Sydney..... | 138 00 |
| Richard Lester..... | do..... | 69 | Canso, N.S..... | 103 50 |
| Rigel..... | do..... | 107 | Barrington..... | 160 50 |
| Sarah B. Putnam..... | Beverly..... | 76 | Canso, N.S..... | 114 00 |
| Sir Knight..... | Booth Bay..... | 76 | Shelburne..... | 114 00 |
| Samuel R. Crane..... | Gloucester, Mass..... | 74 | Port Hood..... | 111 00 |
| Sea Fox..... | do..... | 106 | Yarmouth, N.S..... | 157 50 |
| Susan L. Hodge..... | do..... | 77 | Canso, N.S..... | 115 50 |
| Thetis..... | do..... | 91 | do..... | 136 50 |
| Triton..... | do..... | 67 | Liverpool..... | 100 50 |
| Tubal Cain..... | do..... | 60 | do..... | 90 00 |
| Thomas F. Bayard..... | do..... | 95 | Canso, N.S..... | 142 50 |
| Unique..... | Boston, Mass..... | 75 | Yarmouth, N.S..... | 112 50 |
| Urania..... | North Haven..... | 23 | do..... | 34 50 |
| Velocipede..... | Gloucester, Mass..... | 64 | Margaree..... | 96 00 |
| Wm. H. Jordan..... | do..... | 86 | Canso, N.S..... | 129 00 |
| Wm. H. Wellington..... | do..... | 81 | do..... | 121 50 |
| Winona..... | do..... | 103 | Liverpool..... | 154 50 |
| Willie M. Stevens..... | do..... | 76 | Canso, N.S..... | 114 00 |

SUMMARY.

| | |
|------------------------------------|-------------|
| Total number of vessels..... | 119 |
| Average tonnage..... | 81 tons. |
| Total amount received in fees..... | \$14,461 50 |

The foregoing table shows that the 119 United States vessels, averaging 81 tons each, took out licenses, paying a gross amount of \$14,461.50. These licenses were issued by authority of a special Act of Parliament, and they covered only the calendar year 1890. The privileges conferred were precisely those of the licenses issued under the *modus vivendi* of the "Treaty of Washington Act," 1888, and the fee payable was the same.

The question of the continuance or discontinuance of this system is one which has been much discussed by our fishing population during the past season, and it is certainly one on which there is room for great divergence of opinion. The actual effect of the system has been to enable the United States fishermen to continue certain lines of fishing which, were they effectually debarred the privileges of buying bait, ice and supplies, they would have been compelled to relinquish. They also at times, when bait is scarce, come in sharp competition with our own bankers as purchasers of bait from the trap-owners and fishermen.

In Newfoundland the system was discontinued at the close of the term of the *modus vivendi* but this action on the part of that Government has generally been regarded as due to the fact that some United States vessels were reported to have utilised the privileges of the *modus vivendi* license, not in the direct pursuit of their calling as deep-sea fishermen, but for the purpose of carrying on the business of supplying the French fleet on the banks with fresh bait, thus rendering the self-sacrifice involved in the Newfoundland Bait Act to a great extent nugatory.

On the side of those who argue for the continuance of the system, it is pointed out that the business of supplying bait to these vessels is of considerable value to a number of small-trap owners and fishermen, from the fact that these license holders, who are, as a rule, the pick of the fleet, compete with the Canadian bankers for the purchase of bait, and thus enhance the price; and should no provision be made for the issue of these licenses during the season of 1891 it will be necessary to increase the number of our police vessels, in order to maintain the efficiency of the service. On purely business lines the advantage lies perhaps with the United States fishermen, inasmuch as the license fee of \$1.50 per ton cannot be regarded as the full commercial equivalent of the privileges obtained by the payment; but if the fee were raised at all near the standard of such value far fewer licenses would be taken out, and we should experience difficulty in enforcing the law with strictness.

The table already given shows the actual number of United States' fishing schooners which took out licenses during the past season; and in order to give some idea of the extent to which the privileges under the licenses have been availed of, I have obtained the returns from the Custom house at Canso. These returns show that as early as 7th April a license was applied for at this port, and later in the month farther applications were made, but withdrawn, on finding that they did not include Newfoundland, only, however, in most cases, to be renewed later in the season.

An examination of the returns above quoted, which are printed as Appendix "A" to this report, shows that United States fishing vessels paid 289 visits to this port between the 1st of January and the 25th November, as compared with 252 visits paid in 1889. These visits were paid by a 146 vessels, 82 holding licenses issued by the Dominion Government. The 82 licensed vessels paid 206 visits, whilst the 64 unlicensed ones only paid 89. Few of the mackerel fleet visited Canso this year and the diminution in the number of unlicensed vessels is due to this cause. The number of licensed visitors was the same as last year; but, as a consequence of Newfoundland's action, they used our ports to a greater extent than last year, paying at this port alone 37 more visits than in 1889. The conclusion to be drawn from the returns is, that little if any change has taken place in the distribution of the United States fleet among the various fisheries, but that owing to the more liberal policy of our Government, in contrast with that of Newfoundland, the cod and halibut men have taken their licenses out and purchased bait in the Dominion which they formerly obtained in Newfoundland.

The returns have been carefully kept by the collector at Canso at my request, and I would respectfully suggest that blank forms, foolscap size, similar to those in

Appendix, "A" be printed for the Fisheries Department and supplied to the Collectors of Customs at the following ports, to be by them sent to the Department at the close of the season, viz: St. Andrews, Grand Manan, Westport, Yarmouth, Sandy Point, Shelburne, Barrington, Lockeport, Liverpool, Halifax, Liscomb, Whitehaven, Canso, Crow Harbour, Port Mulgrave, Port Hawkesbury, Port Hood, Cheticamp, Aspy Bay, Ingonish, North Sydney, Louisburg, Arichat, Georgetown, Souris, Malpeque, Cascumpeque, P.E.I., and Gaspé Basin, in Quebec. Returns obtained from these ports would render it possible to form a very accurate estimate of the effect and use now made of our ports as a base of operation for foreign fishing vessels.

I have never met a master of any United States fishing vessel who denied the propriety of the grounds taken by Canada in claiming payment, by way of license fee, for the privileges granted, and the only reason that so many of the mackerel fleet have abstained from taking out these licenses is that their catch of fish has been so poor for the last year or two that they could not profitably do so.

CUSTOMS.

At many of the principal ports to which the fishing fleet resort in the course of a season the Customs authorities have now arranged for the system of stamping the clearance papers when the vessel makes a report, instead of taking up the form and issuing a fresh clearance. This is a great boon to the fishermen, and in no way militates against the efficient working of the ordinary customs regulations.

The Collectors of Customs at many of the various ports are charged with the collection of pilotage fees, and the question has occasionally arisen as to the liability of fishing vessels to pay these dues. The Pilotage Act, 49 Vic., chap. 86, exempts all vessels of not more than 80 tons, registered tonnage, and authorises local pilotage authorities to exempt vessels up to 250 tons, but the only pilotage authorities, so far as I am aware, who have availed themselves of this power, are (1) Pictou, where vessels not exceeding 150 tons register are exempted from outward compulsory pilotage; (2) Halifax, which exempts Canadian fishing vessels not coming from a port outside of the Dominion up to 120 tons registered tonnage. A few years ago the limit of exemption under the Act itself (80 tons register) would have covered all the vessels engaged in the fisheries, and during the currency of the old treaty of Washington, in as much as neither United States nor Canadian fishing vessels used to report at the Customs, no claims for pilotage were ever made on these vessels, and the practice reported to me by the various pilotage authorities is, that fishing vessels, both Canadian and Foreign, are apparently by custom exempted from payment of pilotage. To this almost uniform custom Halifax is the only exception; for at that port all United States fishing vessels over 80 tons are charged full pilotage rates when spoken, whether pilots' services are accepted or not. The improvement and enlargement of the fishing vessels, both Canadian and United States, which has taken place of late years, has brought many of them over the exemption limit, all the modern vessels exceeding 80 tons, and the average of the 119 vessels which took out licenses this year is 81 tons.

It is most desirable that the practice on all these matters should be uniform throughout the whole coast; and as the limit selected by the Halifax Commissioners for exempting Canadian vessels seems to be a reasonable one, I would respectfully suggest that the pilotage Acts should be amended by extending the exemption from compulsory pilotage to vessels of 120 tons. This would cover almost the entire fishing fleet, and would not in any way affect the tariffs laid down by the pilotage authorities in the cases where pilots' services were sought or accepted.

THE MACKEREL FISHERY OF 1890.

The mackerel fishery of 1890 within the territorial waters of Canada was very much more productive than in the season of 1889.

In the early part of the season, the Intelligence Bureau not being in operation, I have no report available as to the exact date of the first appearance and condition

of the mackerel on our coasts, but the following is a synopsis of the report by Mr. A. Fraser, who had charge of the Intelligence Bureau, on the movements of the mackerel.

The most northerly station on the shore which reported the capture of mackerel was Escuminac, N.B. Here they struck in on 25th June and remained until the middle of September. Some catches were made by netters up the coast as far as Shippigan, but the fishery on the shore was intermittent.

In Prince Edward Island, on the north and west sides, the fishery was good; one red letter day, 25th August, many of the boats getting nearly 2,000 fine mackerel each.

On the Cape Breton coast the fishery was only fair, though some fine hauls were made in Chedabucto Bay; and had the fall weather not been so boisterous, boats, and nets would have done well.

In Nova Scotia the fish showed on the western shore throughout the summer, and the fishery was more successful than for some years, and gives evidence of at least a partial recovery which it is to be hoped may be permitted to continue.

The United States mackerel fleet which visited Canadian waters during the season of 1890 consisted of sixty-four vessels; their catch is recorded in the sub-joined table, double rows of figures indicating, in the case of vessels making two trips, the result of each, the letter "L" signifies that the vessel had purchased a license from the Dominion Government to enable her to ship crew or purchase bait and supplies:

| Name. | Port. | Tons. | If Licensed. | Catch. | Remarks. |
|-----------------------|-------------|-------|--------------|------------|--------------------------|
| Agnes E. Downs | Gloucester. | 81 | L. | 116 | |
| Alice C. Jordan | do | 71 | No. | Clean. | |
| Ada R. Terry | do | 82 | No. | do | |
| Ambrose H. Knight | Booth Bay | 87 | No. | 113 | |
| A. R. Crittenden | Gloucester | 81 | L. | 52 | |
| Anna H. Frye | do | 64 | L. | 60 | |
| Canopus | do | 68 | L. | 180 | |
| Caroline Vooght | Booth Bay | 79 | No. | Clean. | Stranded on P. E. Island |
| Carl Schurz | Gloucester | 68 | L. | do | |
| Charles Tappan | do | 68 | No. | 31 | |
| Davy Crockett | do | 81 | L. | 76 | |
| David Sherman | do | 67 | No. | 40 | |
| Delia Maria | do | 54 | No. | 60 | |
| Enola C | do | 62 | No. | 106 | |
| 2nd Trip | | | | 25 | |
| 3rd Trip | | | | 15 | |
| Edith Rowe | Gloucester | 80 | No. | 260 | |
| 2nd Trip | | | | 12 | |
| 3rd Trip | | | | 30 | |
| E. A. Williams | Boston | 32 | No. | 51 | Netter. |
| Emma W. Brown | Gloucester | 75 | No. | 330 | |
| 2nd Trip | | | | 70 | |
| Electa A. Eaton | Gloucester | 73 | L. | Not given. | Only fished in the fall. |
| Ellen Lincoln | Portland | 92 | L. | 106 | |
| Flash | Gloucester | 99 | No. | 23 | |
| Fredonia | do | 109 | No. | 460 | |
| 2nd Trip | | | | 70 | |
| Geneva Mertis | Gloucester | 79 | No. | 160 | |
| Governor Butler | do | 87 | No. | 280 | |
| 2nd Trip | | | | 100 | |
| Gerty Evelyn | Gloucester | 81 | L. | Clean. | |
| Grace C. Hoadley | do | 86 | No. | 160 | |
| Geo. F. Edmonds | do | 141 | No. | Not given. | |
| 2nd Trip | | | | 30 | |
| Harry G. French | Gloucester | 95 | No. | 173 | |
| 2nd Trip | | | | 60 | |
| Herald of the Morning | Gloucester | 65 | No. | 23 | |
| Henry L. Phillips | do | 76 | L. | Clean. | |
| 2nd Trip | | | | 73 | |

List of Seiners.—Continued.

| Name. | Port. | Tons. | If Licensed. | Catch. | Remarks. |
|------------------------|------------------|-------|--------------|--------|-----------------|
| Henrietta Francis..... | Gloucester | 73 | No. | 37 | |
| Hattie Evelyn..... | do | 66 | No. | 73 | |
| Jeannie Seaverns..... | do | 106 | No. | 150 | |
| 2nd Trip..... | | | | 120 | |
| John S. McQuin..... | Gloucester..... | 77 | No. | 40 | |
| J. G. Craig..... | Portland..... | 73 | No. | 140 | Our reports 80. |
| James Dyer..... | do | 81 | No. | 110 | |
| Lizzie M. Center | Gloucester..... | 78 | No. | 310 | |
| 2nd Trip..... | | | | 140 | |
| Lottie M. Haskins..... | Gloucester..... | 55 | | 171 | Spring trip. |
| Lilla B. Fernald..... | Portland..... | 73 | | 12 | |
| Louis and Rosie..... | Booth Bay..... | 73 | | 8 | |
| Laura Belle..... | Portland..... | 77 | | 70 | |
| Lizzie W. Hannum..... | Gloucester..... | 71 | L. | Clean. | |
| 2nd Trip..... | | | | 237 | |
| 3rd Trip..... | | | | 4 | |
| Laura Nelson..... | Gloucester..... | 85 | L. | 52 | |
| Louise Pollys..... | do | 70 | No. | Clean. | |
| 2nd Trip..... | | | | 155 | |
| Lizzie Maud..... | Gloucester..... | 79 | No. | Clean. | |
| M. L. Wetherell..... | do | 73 | No. | 240 | |
| 2nd Trip..... | | | | 180 | |
| Mary Fernald..... | Gloucester..... | 76 | No. | 130 | |
| 2nd Trip..... | | | | 120 | |
| Mayflower..... | Gloucester..... | 95 | No. | Clean. | |
| Marion Grimes..... | do | 61 | No. | 148 | |
| Norumbega..... | do | 120 | No. | 182 | |
| Notice..... | do | 66 | No. | 160 | |
| Nellie N. Rowe..... | do | 79 | No. | 142 | |
| Northern Eagle..... | do | 35 | No. | 30 | |
| Orient..... | do | 89 | L. | 78 | Master died. |
| 2nd Trip..... | | | | 60 | |
| Rapid Transit..... | Gloucester..... | 80 | No. | 100 | |
| Ralph E. Eaton..... | do | 65 | No. | 63 | |
| Roulette..... | do | 63 | No. | Clean. | |
| Rushlight..... | do | 62 | No. | 45 | |
| S. F. Maker..... | do | 104 | No. | 330 | |
| 2nd Trip..... | | | | 230 | |
| Senator Morgan..... | Gloucester..... | 86 | No. | 447 | |
| 2nd Trip..... | | | | 145 | |
| Star of the East..... | Gloucester..... | 62 | No. | 131 | |
| Sunshine..... | do | | No. | 80 | |
| Senator Saulsbury..... | do | 104 | No. | 90 | |
| W. D. Daisley..... | do | 95 | No. | 150 | |
| Willie Irving..... | do | 70 | No. | Clean. | |

Twelve licensed and fifty-two unlicensed seiners, making in all sixty-four vessels, total take, 8,443 barrels.

The catch by the United States' fishermen north of Cape Sable and outside of the territorial waters of Canada is, on the whole, one thousand barrels greater than that of last year, but an examination of the records shows that this does not indicate for them any improvement in the general fishery. The increase is due to the fact that the fish were rather later than last year in coming into the shore; and whilst still in large schools, the early spring fleet succeeded in capturing 2,566 barrels this year, as against 337 barrels taken last year.

The season's fishing from 1st July onwards shows that only 5,168 barrels were taken this year, as compared with 6,438 in the same time of 1889.

The following is the catch of mackerel for the years 1888, 1889, 1890 by United States fishing vessels, made in the waters off the Nova Scotian coast and in the Gulf of St. Lawrence:—

| | | | |
|----------------------|---------------|---------|-----------------------|
| 1888—83 vessels take | 10,418 brls., | average | 126 brls. per vessel. |
| 1889—62 do | 6,755 do | 109 do | |
| 1890—64 do | 8,443 do | 132 do | |

So far as the United States mackerel fishermen are concerned, the season's total catch will be even less than that of 1889, which was unprecedentedly low, and the following table exhibits the relative positions of the United States and Canadian fishermen. In the case of the United States' fishing grounds, the fishery has still declined, whilst the inshore Canadian waters have exhibited a marked improvement. The returns not being yet available, the Canadian catch is estimated, but that for the New England fleet is based on report made to our police vessels by the United States fishermen, and on the reports of the New England catch as published:—

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. |
|-----------------------------|----------------|----------------|----------------|----------------|---------------|----------------|
| Canadian catch..... Brls. | 148,450 | 152,292 | 13,1653 | 65,777 | 65,849 | 90,000 |
| United States catch..... do | 330,000 | 80,000 | 78,000 | 40,000 | 17,794 | 16,140 |
| Total..... | <u>478,450</u> | <u>232,292</u> | <u>209,653</u> | <u>105,777</u> | <u>83,643</u> | <u>106,140</u> |

These figures exhibit in a startling light the differences between the United States and Canadian mackerel fishery, and give some measure of the value of the retention of the inshore fisheries for the sole use of our own people.

The year 1885 was the last season in which the United States fishermen were free to fish within our territorial waters, and in that year their total catch was 330,000 barrels, of which about one-third may be estimated as having been taken north of Cape Sable, making the total catch in the northern waters about 250,000 barrels; against a total catch in 1890 of about, in round numbers, 100,000 barrels, taken in the same waters; but, where in 1885 the United States fishermen took fully 40 per cent. of all mackerel captured in northern waters, the closure of the inshore fisheries has reduced their share down to a little over 8 per cent. Hence, though from over-fishing and improper fishing, the product of this fishery has greatly fallen off, our own people now secure a much larger share than they formerly did.

The fishery in Canadian waters has this year improved somewhat, and if not destroyed will, I think, continue to do so. Large masses of small fish were seen this year and bodies of adult fish appeared at places where for some seasons none have been taken. This is notably the case in St. Mary's Bay, where considerable quantities of the fish were taken, and, but for lack of preparation the fishery would probably have been even more successful at that place.

I have in former reports urged on your notice the desirability of making an international arrangement for the total suppression of the use of the purse seine, or at least for its prohibition, until after the spawning season for mackerel. I have also dealt with the question of the season and areas for prohibition, and I now show on the annexed map the three great areas into which the mackerel fishery naturally arranges itself, in accordance with the gradations of marine climate, due to geographical position, the trend of the coast line, and the physical characteristics of the ocean and the bottom.

The first or most southerly area is that marked on the chart as the New England mackerel fishery, and lies to the southward of the parallel of latitude passing through the south point of Cape Sable Island. This area is already protected against the injurious effect of the purse seine, when used at improper times, by Act of Congress, which prohibits the landing in the United States of all mackerel caught in a purse seine prior to 1st June in any calendar year, because in this region the spawning season is practically over before this date.

The second or middle area, called on the chart the Nova Scotian mackerel ground, is farther north, and hence the spawning season, as might be expected, is later. In this region it would be necessary to prohibit the use of the purse seine up to 1st July, in order to give the fish the same measure of protection that those to the south receive under the Act of Congress above quoted. In this region, during the season just closed, United States fishermen captured during the month of June about 2,500 barrels of gravid fish, which ran about 200 or more to the barrel, and if these half million of unspawned-fish had been left free for another month we should have had many millions of fry which were then destroyed.

The third area is the Gulf of St. Lawrence, and in this no purseseine should be shot prior to 23rd July, unspawned fish being occasionally taken as late as 1st August.

Public opinion among the fishermen, as a whole, is decidedly hostile to the use of the purse seine, and many of the seiners this year discarded its use almost entirely and relied for their summer's catch on hook and line work. To this is due the fact that no less than twelve United States mackerel catchers this year took out Dominion licenses, to enable them to purchase bait and to ship expert hookers. The system of purse seining, so long followed by the Gloucester men, having caused the disappearance from the United States fleet of the skilful hook-and-line hands of which they formerly boasted, whilst in Canada the system has never been abandoned altogether, though considerable numbers of our fishermen were tempted to embark in the purse seine fishing, as a rule with unprofitable results to themselves.

I heard of a case this year, and have had the story since confirmed, which illustrates well the condition of the fishery. A seiner belonging to the United States was drifting hooking, having the fish raised nicely to the bait, though not biting keenly, when a small school was seen playing near by; the crew insisted, against the advice of the master, on giving up the hooks and going in the seine boat in pursuit of the school, which they chased unsuccessfully for several hours, and when they returned to the ship, tired out, were bitterly disappointed to find that the cook and the other hand left on board had caught upwards of a wash barrel of fish while they had been toiling for nothing. Had they stuck ploddingly to their hooks they would probably have had seven or eight barrels for their day's work.

All the United States vessels that came north this year were using bait, and nearly all made the greater part of their catch with the hooks; there were, however, two vessels, the "Lizzie W. Hannum" and the "E. A. Williams," which came down fitted as drift netters, a new departure entirely in the mackerel fishery of our northern waters, though it is the system which has been commonly followed in Great Britain. These nets, which are deep and of great length, are in gangs or fleets on one strong head rope, and when put over, the ship rides to her nets and drifting slowly keeps the line of nets straight out. This is purely a night fishery, and is therefore not so injurious to the fish as the purse seine.

Our mackerel fishery has been largely saved from extinction by the protection given to our inshore waters, but the restoration of its former profitable condition will be a work of years, if indeed it ever happens, unless steps are taken actively and immediately for the further preservation of the fish. It is quite true that without international agreement we cannot forbid the use of the purse seine on the high seas, but we can forbid its use within the territorial waters of Canada; and further, if a regulation is made that no purse seine shall be carried in a seine boat during the close time in the said territorial waters, under a penalty of \$100 for the first offence, and the same, together with the forfeiture of the seine on the second offence being proved, this regulation would involve so much handling of the seine and such trouble and anxiety to the masters that it would greatly discourage the use of the seine.

Theorists may talk about the rise and decadence of deep-sea fisheries being beyond the control of man, but the mackerel is not purely a deep-sea fish; it spends a great portion of its existence near the shores, and the facts already known and stated in previous reports speak louder than any theories, and show that the mackerel

fishery has been ruined on the United States coasts and greatly injured on our own by the use of the purse seine, especially by its use at improper times.

If timely action is now taken the restoration of the mackerel fishery may reasonably be looked for. International arrangement is most desirable, but failing that I am strongly of opinion that action should be taken at once within the proper limits of Canadian jurisdiction, and a regulation such as I have described would do a great deal to discourage the use of the purse seine. A fisherman particularly dislikes anything that savours of extra or unprofitable labour, and the fact that the seine boat would have to be hauled up alongside and the seine handed out of her on to the ship's deck every time a vessel wanted to go into port, or even to pass through Canadian territorial waters, would prevent many a fisherman from taking to purse seining. The net and trap fishing also needs regulation, but this will be dealt with more particularly in another part of my report.

In concluding these remarks on the mackerel fishery, I may point out that at no period in the history of the fishery has there been a time when a measure forbidding the use of the purse seine would have been received with less disfavour than now. Many of the old seiners are thoroughly disheartened, and I have not heard of any new seines being ordered this season, so that the injury to invested capital would be very much less than formerly. I am strongly of opinion that the limitation of the use of the purse seine in the three areas as set forth in the map herewith would meet with the approval of a large portion of our own fishermen, and with but little objection from those of the United States. If, therefore, international co-operation can be arranged for this measure of protection it will be a matter of congratulation and, in the long run, of great service to the fishermen of both countries; but failing to obtain such co-operation I would urge on your notice the advisability, or in fact almost the necessity, of taking action in respect to the territorial waters over which our powers are undisputed.

THE LOBSTER FISHERY.

The lobster fishery of 1890 was, speaking generally, a great improvement over that of 1889. On the Atlantic coasts of Nova Scotia the weather was somewhat stormy during the season, and as a consequence the catch was smaller there than in 1889; but the extraordinary advance in price has made the business a very profitable one to the packer, though I am not aware of any case in which the fishermen have been permitted to share in the increased profit. In the Gulf of St. Lawrence, the total pack will be found to have exceeded considerably that of 1889, and it is satisfactory again to be able to say that, at any rate, in the early part of the season, the size of the lobsters showed considerable improvement.

The force under my command was again employed for the enforcement of the regulations in regard to the lobster fishery; and the additional experience which I have this year acquired has only confirmed my previous opinion that the force at the command of the Department is inadequate for the purpose of ensuring a strict compliance with the regulations during the open season. I state it as an opinion founded on my own observation and on the admissions made by those connected with the industry, that in the Gulf of St. Lawrence, along the Nova Scotian and New Brunswick shores and on Prince Edward Island, no single day's pack was ever put up during the past four years on which the packers might not have been fined for undersized or "berried" lobsters. To such an extent is the destruction of the female lobsters carried on that at one time I was informed that for several days fully one-third of the entire pack of a factory consisted of "berried" lobsters, and it is quite true to state, that there has been no general attempt on the part of the packers to carry out the law in regard to the limitations of sex and size of the lobsters.

On the outer coast the unfavourable weather reduced the catch, and acted as a measure of protection during the regular season; and the illegal packing in September and early October was this year put a stop to by seizing the traps which had been set illegally, rather more than one thousand traps having been seized and destroyed between Wedge Island and Halifax harbour. These traps were all the pro-

perty of individual fishermen and could not be replaced under 80 or 90 cents each, so that the seizure and destruction of these traps was equivalent to collecting fines to the extent of between \$800 and \$900, and I am of opinion that if a police vessel be kept on the coast from 15th August to 15th October it will be quite possible to put a stop to this illegal fishery in the close season.

It is a question deserving much consideration as to what measures for the protection of the fishery can be framed which will be capable of being readily enforced, and will at the same time not seriously hamper the legitimate prosecution of the business.

In considering this, let us take the case of a good factory, putting up from 1,600 to 2,400 cases, this establishment would probably be running receiving lobsters on thirty or thirty-five working days in the present season; on each of these days a fine of, say \$20, could be collected, which would amount to about \$600, an amount which, at the present price of lobsters, would rather be regarded as an excessive license fee than as a prohibitory fine. If the present regulations are retained in force I regard it as most important that the penalties should be such that it would be possible to render the illegal prosecution of the business unprofitable.

The system in the State of Maine is that the fine imposed, is without discretion of the convicting officer or justice, fixed at a definite sum per lobster found in possession of the accused illegally, and I would strongly urge upon your notice the advisability of amending the Fishery Act so that the fine shall be, say, \$2 per lobster found illegally in possession.

I would especially urge upon your notice the point that the present condition and prospects of the lobster market render the time most opportune for the strict enforcement of the law. Canned lobsters have been sold during the past season as high as \$7 per case of 48 lbs., which formerly sold for \$4; and if we allow that \$6 is the ruling price, a much smaller pack can be put up profitably at this figure, whilst the improvement in the quality would tend to enhance the price still further.

To those packers then, who hold that the present regulations are all-sufficient, the reply is simply that the Department is also of opinion that these regulations are sufficient if enforced by adequate penalties.

There is, however, another view to this whole question, and one which commends itself to many; but before discussing the propositions involved, it may be well to discuss the different means adopted for the protection of this fishery.

They may be divided into two classes, the one to be classed as restrictive enactments and the others as reproductive measures.

The restrictive enactments now on the Statute Book are :

- (1). In regard to close time;
- (2). In regard to size of crustacean to be taken;
- (3). In regard to condition and sex.

(4). A fourth restrictive enactment might well be added, to establish closed areas or nurseries for the development of the young. In these closed areas no traps should be allowed to be set.

The reproductive measures have already been inaugurated by the Department, and the central hatchery at Bay View N.S. will doubtless do good work in its immediate vicinity. The artificial propagation of fish has now been proved commercially successful; but, like many other commercial ventures, in order to derive the fullest benefit from the system, the undertaking must be on the largest possible scale. Nor need the fear of expense deter from the undertaking, for the increased capacity of the works is obtainable at a greatly reduced cost. In the case under consideration, however, the propagation of the lobster, a central establishment, though absolutely necessary for the study of the question, can do but little for the fishery at large. Nor can those interested in the fishery expect the Department to undertake the artificial propagation on such a scale as would be necessary without some direct contribution or aid from the packers themselves. Fortunately, the path has been already cleared by the enterprise of the Newfoundland Government and the skill of Mr. Nielsen, their Superintendent of Fish Culture.

This gentleman has devised a hatching trough or box which can be utilised at the canneries for the purpose of hatching out the ova or the "berried" lobsters now illegally captured; and thus the packers and fishermen can be enlisted on the side of the Department for the saving of the ova, the destruction of which now, perhaps, more than anything else, militates against the speedy restoration of the fishery.

To show that this is no idle statement I will take the case of a cannery putting up 2,000 cases, or 96,000 lbs.; these require say half a million lobsters to put up, and my enquiries show that probably 1 in 5 are "berried" lobsters—say 100,000. Now, take even one-half of this, and say that 50,000 "berried" lobsters, each carrying about 20,000 exuded ova, were destroyed in putting up the 2,000 cases, we have no less than 1,000,000,000 ova destroyed; and if this rule be applied to the 220,000 cases which constituted the product of the fishery for the year 1889 we have a number of 110,000,000,000 as the wanton destruction of ova which it is possible by the use of this simple means, to save—at any rate, in some small measure; for even a saving of 1 per cent. of such a total represents a number the magnitude of which figures fail to bring home to the mind.

If we pass now to the consideration of the restrictive enactments we find that in regard to the close time the regulation has been, on the whole, well observed within the Gulf of St. Lawrence, and the illegal fishing was this year stopped on the Nova Scotia coasts and can be absolutely prevented for the future. (2). This regulation in regard to size has not been generally observed, except by those fishing for the purpose of selling the lobsters for use fresh in the markets. I know of no cannery which culls the lobsters as they come out of the boats. (3). Soft shell lobsters are never taken to any extent, but the regulation as to the female lobsters carrying exuded ova meets with no more general observance than that in regard to size.

As a part of the remedial legislation proposed in my report of last year, I invited your attention to the establishment of closed areas or nurseries for lobsters, in which no trap was to be allowed to be set. I then proposed in detail that two miles out of every ten should be set apart as a closed area, and I still think such an arrangement would be fraught with the greatest benefit to the fishery; but if the difficulties in the way of establishing any such rigid plan seem too great, then an almost equally effective system would be the establishment of somewhat larger areas or nurseries, and the identification of the boundaries of such closed areas by existing landmarks, headlands, churches, &c.; the object of this is to permit of the natural reproduction of these valuable crustaceans. All artificial work takes time, and is only a partial success after all, when compared with nature's methods when here we have a potent remedy capable of being applied immediately and under circumstances ensuring a high percentage of success.

I would therefore respectfully suggest that the Inspectors of Fisheries be requested to locate certain closed areas, approximating five miles of closed area, to say, twenty miles of open, without regard to absolute fidelity to these distances, which are given rather as a guide to the relative proportions of open and closed areas, which I consider it desirable to establish; and given the establishment of these undisturbed areas the benefit would speedily be found by the re-stocking of the comparatively depleted waters along the coast; because the young fry, when first hatched out and in their free swimming state, would not continue residents of the closed area, but would be carried along the shores by the tidal currents, and finally become a denizen of the locality where he first assumed his shell jacket.

The adult lobster is, in my opinion, far less migratory than is generally supposed by fishermen, and packers and fishermen should both have faith that, if by reason of size or time limit they are prohibited from capturing a lobster, it is only a postponement and not a final prohibition, for the same lobster will be on the ground next spring and will be worth more then than if captured either undersized or after the close season.

I have now spent four complete seasons in command of the Fisheries Protection Service, and have given much time and thought to the question of the restoration of

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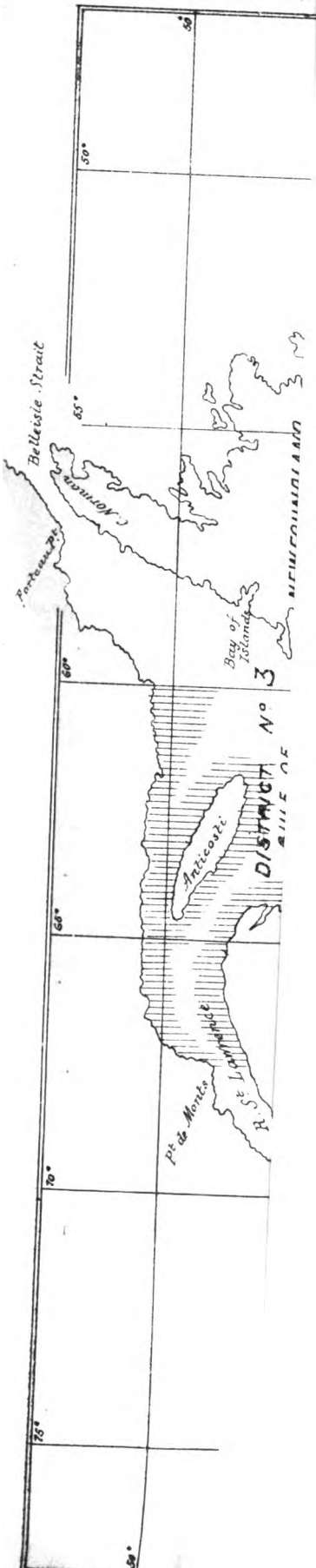
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(m.) In each district, during the season in which it is lawful to pack, can or otherwise preserve lobsters, the regulation prohibiting the capture of female lobsters carrying exuded ova shall not apply to any lobsters delivered at a licensed cannery, when the proprietors of such cannery have fitted up boxes for the hatching out of such ova as may be taken from the female lobsters delivered at the cannery—such boxes to be of the pattern approved of by the Superintendent of Fish Culture for the Dominion; and the Minister may, on receipt of a certificate from the fishery officer that such approved hatching boxes have been in successful operation throughout season, allow towards the expenses of saving the said exuded ova a sum of $3\frac{1}{2}$ cents per case of 48 pounds on the output of the cannery.

The adoption and rigid adherence to these regulations during a period of, say three years, would, I am convinced, not only vastly improve the fishery, but would, by improving the quality of the pack retain, for our Canadian product that reputation for superior excellence which it formerly had.

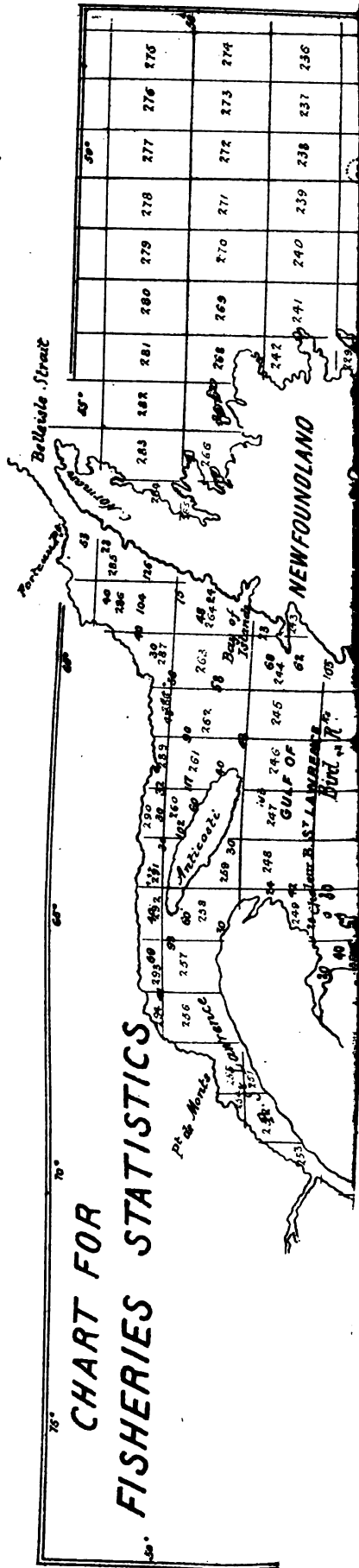
Under the present methods of conducting the business many canneries are owned and worked by citizens of the United States and lobsters caught and packed in the Gulf of St. Lawrence are labelled in our Canadian factories as product of the United States; and thus in the markets of the world the States of Maine and Massachusetts get credit for goods which are the production of Canada, though the capital and energy employed may both be the property of the citizens of the United States. I would urge on your notice, in this respect, the advantage which a license system would have—that it could be forbidden to label the products of our factories with foreign labels. A very considerable proportion of the goods are sold unlabeled, and if they are so sold, and the consignee in the United States wishes to label the goods, he can of course do so; but this would involve unpacking and re-handling, all of which means expense and the packers would rather label the goods in the place of production than incur this expense; and I am strongly of opinion that Canada should insist on, as far as possible, obtaining credit in the world's markets for the goods produced within her borders.

THE SHORE FISHERY AND THE BAIT QUESTION.

I have in previous reports discussed at length the question of the interdependence of the anadromous and coast or shore fishery, and the added experience of passing years only confirms my conviction that the welfare of the shore fishery is largely dependent on the supply of so-called anadromous bait. A general view of the rivers flowing into the Atlantic and Gulf of St. Lawrence shows that the quantity of anadromous fishes is reduced, from the vast crowds which formerly thronged the streams and lakes, to proportions the most attenuated. The causes are well known and some of them are irremediable, though their effects may eventually be minimised, but those causes that can be removed it is the highest duty of the Department to continue to attack. I allude in this particular to the continued blocking and defilement of the streams, and to the illegal fishing which goes on. Much may be done by the application of existing remedies, and though we cannot hope to restore the fishery to its former condition, proper fish-passes, no defilement and rigid adherence to close seasons will, with the aid of artificial propagation, do much to attain the desired ends and every step taken in the direction of improving these anadromous fisheries must be regarded as of benefit to the shore fishery. The numbers actually engaged in the deep-sea and shore fishery remain almost constant.

The figures for the Maritime Provinces in 1889 given by the Inspectors being:—

| | In Vessels. | In Boats. |
|--------------------|-------------|-----------|
| Nova Scotia..... | 6,814 | 20,520 |
| New Brunswick..... | 637 | 9,890 |
| P. E. Island..... | 559 | 3,686 |
| Total..... | 8,010 | 34,096 |



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The baits used are *gaspereaux*, herring, mackerel, squid, and on the Quebec shores launce and caplin: and the reserve bait, when all others fail, is the clam; but it takes a day to dig the clams for a day's fishing at many places, so that the time of the boat fishermen is reduced one half when the weather is best.

I would point out that much might be done by the erection of cheap freezing houses and cold stores, so that when the spring herring struck in, a large quantity might be preserved by freezing, to use as bait when the regular bait got scarce. The principle is largely adopted for handling the products of the fisheries of the great lakes. The ice houses are inexpensive structures, and the covering used as a non-conductor is hay. The fish, when first taken, are put in the room called the "freezer," which contains, according to its size, a number of hollow cylinders, which reach from the floor to the room above and terminate beneath the freezer in a conical point and drainage tube, passing into an under-drain. The cylinders are filled from the room above with ground ice and salt, and lower the temperature of the freezer considerably below the freezing point, so that even large fish freeze rapidly. When frozen, they can be removed into adjoining compartment, which contains fewer cylinders of ice and salt, and is used simply as a cold store, in which the fish are stacked up. A building 40 x 20, with a 12 feet post, would be ample for the storage of a large quantity of herring, and at many places would be a great value to the fishermen. On a larger scale, if the spring herring at the Magdalen Islands were put up in this way they could be readily sold to both boat fishermen and bankers; for at present, owing to the high price and scarcity of mackerel, there is a period between the spring herring bait and the squid baiting in which all bankers are, per force, idle, and when the squid first come in there is such a demand that the price is doubled or even trebled.

The erection of these ice-houses must be left to private enterprise, but plans and specifications might be prepared by the Department, showing in detail the methods so successfully used on the Great Lakes, and copies thereof, with full information, given to any one making application.

This question of the bait is the key to the successful operation of the entire fishery, and if by means of frozen herring bait we can give back the two or three weeks lost cod fishery due to the destruction of the mackerel, the gain would be immense, because it is the latter part of June and early July, and the very finest weather of the season, that is lost.

The question of restrictive measures is a very delicate and difficult one, but I unhesitatingly condemn any method of fishery which tends to waste the product. In the North Sea herring fishery and in the Irish mackerel fishery the fishing boat stays by her nets and if the weather becomes ugly the nets are hauled; but in our waters, since the cheap American nets have been introduced, many fishermen will take all the net they can get on credit, or by means of small payments, and the result is that it is quite a common thing for a boat to have more nets than it can handle daily, and the nets are left in the water day after day and night after night, and if a spell of bad weather comes the fish that are meshed rot in the nets. I have known beautiful mackerel utterly destroyed in this way.

Restrictive measures are abhorrent to the uneducated fishermen; and though many of the better educated among them may appreciate the motive underlying the measure, they are such fatalists that they are almost certain to oppose it, and great mischief may be done before any large proportion of the fishermen could be brought to believe that it was any use for man to interfere in the sea fisheries.

I am, however, firmly of opinion that some thing must be done in the way of restrictive enactment to deal with the literal wall of net which surrounds our coast day and night. These nets do not mesh the fish in the day time; they only wall them out and keep them from their natural spawning grounds.

In the Atlantic, on the west coast of Scotland, the law is that no net shall be set or shot between sunrise and one hour before sunset on any day between the 1st day of June and the 1st day of October, nor between sunrise on Saturday morning and one hour before sunset on Monday evening.

This law has been declared necessary by the Scottish Fishery Commission, has been enacted by the Parliament of Great Britain, and is now enforced by armed fishery police cruisers.

In Canada we require some such measure. I would propose that in order to regulate the fishery an annual license fee of one-fifth of one cent. for every square fathom of net be charged to the fishermen, which would, on the ordinary nets, be equivalent to one cent per running fathom, and that no license be granted to any individual boat for more nets than the owners can lift and set daily; and that throughout the season no net other than licensed trap nets shall be allowed to be kept set between seven in the morning and five in the afternoon; all net buoys to be branded with the name of the owner, or with a mark registered with the nearest Collector of Customs or fishery officer. The enactment of the regulation prohibiting the setting of nets during the day, as above, would have the effect of reducing the quantity at once, because the nets being illegally set would be liable to seizure, consequently the boat's crews would not set more nets than they could attend to.

The fall herring fishery was at one time one of the great fisheries of eastern Nova Scotia; it was from these fish that the food of the people was taken; but of late years this fishery has failed. One reason of the failure is, I believe, the excessive fishery on one spot or spawning ground. In the Bay of Fundy the fishermen now recognise the benefit accruing to them from the preservation of the spawning beds on Grand Manan. And I would strongly urge on your notice the advisability of protecting what I believe to be a similar spawning ground for the fall school of herring near the mouth of the St. Mary's River, Guysboro'. This ground has for several years past been visited each fall by a regular fleet of vessels, some carrying as many as a hundred nets, and not only have they injured, not to say ruined, the fishery, but this mass of nets, brought from all parts of the coast, has prevented the local resident fishermen from getting a reasonable share in the catch.

I would recommend that the area which can be swept by a radius of seven miles from Wedge Island lighthouse be set apart as a spawning ground for herring, and that between the 15th day of September and the 15th day of November no net shall be allowed to be set in the waters of said area, save by those holding licenses therefor, such licenses only to be issued to local resident fishermen and quantity licensed not to exceed 1,000 square fathoms of net to each boat owned in the coast of the district so set apart. This amount of net will not interfere with the fish coming in, but will be sufficient to enable these local resident fishermen to get the food supply which they require for themselves and their families. I feel that I cannot too strongly urge on your notice the advisability of adopting, with the least possible delay, this measure of protection for a much depleted fishery.

I cannot do better than close this part of my report with a quotation from the report of the Fisheries Commissioners of Newfoundland, who say: "It is useless for mere theorists to tell us that fish are so prolific that they cannot be exterminated; that for some unknown causes fish come in plentiful some years, then become scarce, and after years of absence return in abundance; that we cannot calculate their erratic pelagic movements; that man cannot exhaust the great ocean. These specious, but utterly baseless theories, are confuted by the undeniable fact that, in all our great bays the supply of cod has been steadily diminishing, never increasing, and that several of them are almost depleted, so that the fishermen are driven to other distant places in search of fish. For such a decline there must be causes. It is our part to search out and remove these causes and use remedial measures."

These words are as fully as applicable to Canada as they are to Newfoundland. I have endeavoured in my work to find out the causes, and I have placed before you what I deem to be remedial measures.

FISHERY STATISTICS.

The subject of fishery statistics lies at the root of the whole question of the scientific and practical successful administration of our fisheries. Legislation based

on incorrect or misleading information would bring discredit on the whole system, and the individual fisherman must be made to feel that all restrictive or other enactments are in pursuance of an enlightened policy, and that he himself is helping to shape that policy. To this end it is most desirable, from every point of view, to enlist in the work of the collection of fishery statistics the brightest and most intelligent of the fishermen in every port along the coast.

What we require is a report of the takes by individual boats on each fishing ground throughout the season; and thus to watch the increase or depletion, as the case may be, or the change in the kind or dimensions of the fish. One very common complaint this year among the fishermen was the small average size of the fish taken; and as diminution in average size is a sure forerunner of depletion of a fishery, we may accept the reported falling off in the shore fisheries as being very real. But in seeking the remedy our statistics, which are doubtless accurate enough in a commercial sense, fail to convey to us the kind of information required for the laying down of lines of policy in regard to the fisheries.

For the purpose of illustrating the scheme for obtaining fishery statistics which I propose I append hereto a miniature copy of a chart, somewhat such as would be given to a deep-sea fisherman or banker. It will be seen that the chart is all ruled off in squares, and that each square has a number by which it is identified. A copy of the chart would be given to each master of a fishing vessel who applied for it, and accompanying the chart would be a journal, giving a record of the ship's voyage and the amount, kind and description of fish taken each day, also the position of the ship described thus; *e.g.*: "24th June N. E. $\frac{1}{4}$ of 216-1,200 lbs. cod, large; 200 lbs. small; bait, used "herring." Such entries from day to day, when finally plotted on the chart, and with reports received from a large number of schooners, for many United States bankers would willingly act as volunteer reporters, as well as members our own Canadian fleet, would illustrate, month by month, the positions of the fish on the banks and would give subject matter for study in regard to their movements and life history.

For the shore fishery charts on a larger scale of smaller portions of the coast would be constructed on a similar plan, and then we should be able to follow each particular fishery on each individual ground, and would be able to deal intelligently with many matters which are now dealt with on assumptions, which continued investigation in the manner I have described may prove to have been either correct or erroneous.

There is one point to which I wish to give particular prominence, viz., that neither statistics of fisheries, meteorology, nor any other subject are of public usefulness unless placed in competent hands for examination and discussion. And I would urge upon your notice the advisability of forming some Board of specially qualified persons who could meet occasionally and discuss matters pertaining to the fisheries. On the Atlantic coast we have now eight Inspectors of Fisheries, some of them specially qualified to speak authoritatively on the subject of the fisheries, and I am of opinion that it would be very advantageous to the working of the Department if these gentlemen were to meet annually, or oftener, if required, to discuss matters relating to the fisheries; and if nothing further was gained than a mere exchange of views, such exchange would ensure uniformity of procedure in regard to the administration of the Fisheries Act. In these eight gentlemen we have, however, men who have taken up this work as a specialty, and their accumulated experience can best be made use of by causing them to meet and discuss what lines of policy it is desirable to adopt in reference to the fisheries.

Among the subjects which might be discussed advantageously are:—

- (1). The lobster regulations.
- (2). Shall net fishing be regulated;
- (3). Under what circumstances may trap-net licenses be granted, and should the fee be uniform for all trap-nets;
- (4). The question of the prices by which the values of the fisheries product should be determined in the statistics as at present collected.

(5). The best method of obtaining fisheries statistics.

These and kindred subjects would take up a meeting extending over, probably about a week, and the knowledge that they were to be called on to take part in a discussion on such subjects would lead them to devote time to the special study of the points raised, would elevate them above the level of routine officers, and develop a spirit of painstaking investigation which could not be otherwise than of value to the Department. To these men, too, the summarised results of the proposed special statistics, and of the matter gathered by the Intelligence Bureau, should be submitted for discussion; and final reports (both majority and minority reports on all subjects, when opinion was not unanimous) should be submitted to the Minister.

FINANCIAL AID TO FISHERMEN.

In Canada the aid granted to fishermen is by way of direct payment of money to those who have been engaged a certain time in each year in the capture of deep-sea fish; but owing to the smallness of the sum, which each individual fisherman receives, the benefit to the men and their families is not great.

In the discussion of the shore fishery I have shown that the high average among the boatmen hardly reaches \$200 for the support of the men and their families. As they say: "The fish are off shore now, and we lose much fishing, owing to bad weather." What is required is to relieve the shore fishery of the great pressure on it, by assisting those desirous of so doing to engage in the deep-sea or off shore fishery in small bankers. In Great Britain authority has been granted to the Commissioners of the Scottish fisheries to loan money to fishermen in certain districts for the purchase of boats, gear, &c., and to take a lien or mortgage thereon for the repayment of the money advanced. This Act was passed in 1886, and in the three seasons—1887, 1888 and 1889—upwards of \$100,000 has been so loaned to the fishermen and a very considerable sum has already been repaid.

In the counties of Cape Breton, Inverness, Richmond, Victoria, Guysboro' and Halifax, in Prince Edward Island, and generally in the counties fronting on the Gulf of St. Lawrence, there are many boat fishermen who would club together if money could be advanced to them for the purchase of small staunch-decked vessels up to 25 tons burden, the money so advanced to form a lien on the vessel and the owner to keep the vessel insured and refund the purchase money in four equal annual instalments.

These small bankers are for fishing the banks near shore and in the Gulf of St. Lawrence, which are just too far off for the boat fishery; but inasmuch as these small vessels would be in, every week the fish could still be made, so as to class as "hard shore" instead of "bank" fish, and none should ever be salt burnt. The money might be placed at the disposal of Commissioners for the purpose of making the loans; and, without costing the country one cent beyond the expense of administering the scheme, the greatest possible good would be done to our people, and the shore fishery very considerably relieved; for not only would the benefit be to the fishermen in the summer's work, but the stimulus to ship-building would be quite marked, as I am convinced that if the plan was considered by the Government worthy of adoption applications for loans for a number of vessels would speedily be filed. Under existing circumstances, our people have to compete in the world's markets against the heavily subsidised French fishermen, and against the United States fishermen, backed by unlimited capital, and with a protected home market for their entire catch. I would therefore urge on your notice this plan of assisting them to purchase a certain number of vessels to take the place of the boats now used.

THE FISHERIES INTELLIGENCE BUREAU.

Proposals for establishing a Fisheries Intelligence Bureau having been approved of and the permission to utilize telegraphic communication for the purpose of gathering and disseminating information in regard to the fisheries, granted; the services of the following staff was secured:—Mr. Alex. Fraser, B.A., was appointed to act as clerk

in charge at Halifax, his duties being to receive all the messages, interpret them and enter the facts given on the map. He then had to prepare two synopses, one for publication in the press and a second somewhat abbreviated for transmission by telegraph to various stations where the bulletin was posted up for the use of fishermen.

Reporters.

| | |
|--------------------------------------|-------------------------|
| E. D. Tremaine | Port Hood. |
| Wm. Grant | Mabou. |
| W. A. Dunn | Margaree. |
| S. AuCoin | Cheticamp. |
| J. A. Feltmate | White Head. |
| Capt. S. R. Griffin | Isaac's Harbour. |
| Geo. Rowlings, Fishery Officer | Musquodoboit. |
| W. M. Solomon, Fishery Officer | Lunenburg. |
| E. E. Letson | Port Medway. |
| John H. Dunlop | Liverpool. |
| Geo. Stalker | Lockeport. |
| Charles H. Bolman | Sand Point. |
| J. W. Taylor | Port La Tour. |
| J. A. D'Entremont | Pubnico. |
| Isaiah Thurber | Freeport. |
| J. M. Viet | Digby. |
| M. J. Foley | Souris. |
| Charles Owen | Georgetown. |
| D. McCaulay | St. Ann's. |
| A. J. Hamilton | North Sydney. |
| Wm. Brymer | L'Ardoise. |
| Remi Benoit | Arichat. |
| D. Urquhart | St. Peter's. |
| C. P. LeLacheur | West Arichat. |
| J. C. Bourinot | Port Hawkesbury. |
| P. O. Toole | Louisburg. |
| David Murray | Port Mulgrave. |
| J. W. Young | Canso. |
| Miss A. Beck | Percé. |
| M. A. Carberry | Grand River. |
| Miss Laura Young | Paspebiac. |
| Miss Louise Blackhall | Caraquette. |
| W. Phillips | Escuminac. |
| A. Hamon | Shippegan. |
| John Hughes | Bloomfield. |
| Wm. McDonald | Meat Cove. |
| E. B. Burke | Ingonish. |
| A. J. Clark | North Head Grand Manan. |
| Wellington Parker | Campobello. |
| J. Labourdaïs | Magdalen Islands. |
| E. M. Cross | Beaver Harbour. |
| W. C. Henly | Spry Bay. |
| F. L. Hatfield | Yarmouth. |

In all forty-four reporters stationed along the coast line in actual touch with the fishermen and reporting daily by wire and some of them weekly by mail as well. These reporters received as an honorarium in recognition of their services, the sum of \$15 each, and I desire to place on record my acknowledgements to these ladies and gentlemen for the careful and accurate reports which were sent in with such faithful regularity in most instances.

The instructions issued to the reporters were that each day a message was to be prepared and enciphered and handed in to the telegraph office about 6 p.m. and they thus reached the clerk in charge at Halifax between 8 and 9 in the evening and were at once discussed and the bulletin for the day issued.

As for the publication of the bulletins, they were posted at the telegraph offices at the following places: Canso, North Sydney, Lunenburg, Lockeport, Liverpool, Yarmouth, Shelburne, Escuminac, Shippegan, Caraquette, Paspebiac and Percé. Besides this they were furnished to the Halifax daily press and to the associated press for publication. The Halifax papers published the bulletins regularly, and so highly was the information prized by those interested in the fisheries, that I have been told of persons living in remote parts of New Brunswick subscribing to the Halifax papers in order to get the information. One of the first questions asked by a fishing captain when he lands is, "What does the bulletin say"? And I believe that no step ever taken by the Department has met more generally with the approval of the fishing community than has this establishment of the Fisheries Intelligence Bureau. It is, however, one of those systems which takes time and experience to obtain the best results, and one of the points which was not considered very important at first, proves to be one of the leading features of the scheme, viz., the distribution by telegraph of the information and the posting up of the Bulletins in a public place so that the fishermen can see it for themselves. Take for instance, the case of a vessel cruising off the west end of Prince Edward Island, she can run into Escuminac Light, send a boat ashore and see the bulletin, and in a quarter of an hour she has the whole story of yesterday's fishing throughout the coast. That I have been able to carry out this scheme at so small a cost has been due to the policy of enlightened liberality pursued by the managers of the Western Union and Great North-West Telegraph Companies and the Anglo-American Cable Company, who gave such a reduction in their rates as enabled the work to be done within the limits of the expenditure sanctioned.

The following are the amounts expended on this service during the past season :—

| | |
|----------------------------------|----------|
| Salaries of 44 reporters | \$630 00 |
| Salary of clerk in charge..... | 248 33 |
| Telegraphy | 437 79 |
| Postage and sundry expenses..... | 13 92 |

Total cost of Intelligence Bureau..... \$1,330 04

I should like, next year, to utilize the Government telegraph lines over which our messages are carried gratis, as Government business, for the dissemination as well as the collection of information, and to this end would have the daily bulletins sent to Anticosti, Magdalen Islands, Meat Cove and Ingonish, and if possible also to Georgetown, Souris, Alberton and Tignish, on Prince Edward Island, and Port Hood, C.B. These few additional stations would be of great value to the fishing community, as the information would always be fresh, and instead of going in and telegraphing to Halifax and waiting for reply, the bulletin would then be posted up for the fisherman to read.

In order to give these bulletins a distinctive character, I should like to have regular bulletin blanks printed and supplied to the telegraph offices where the bulletin is posted; suitable cheap frames might also be supplied, just as the Meteorological Office now supplies its stations with blanks and frames.

The full usefulness of the bureau during the past summer was somewhat marred by the late date at which its operations were commenced, inasmuch as it was July before the work got into full swing. I would respectfully suggest that operations should be commenced next spring on 1st May, and in order to do this the clerk in charge should be appointed about 15th April. The early part of the month of May is the time when the banking fleet are seeking herring bait, and of late years there has been frequently much

disappointment in the search for bait among both the Canadians and Americans, which the establishment of the bureau would have averted. To such an extent is this the case, that I regard the month of May as perhaps the month of the season in which the beneficial effects of the working of this system would be best exemplified.

It cannot be denied that in the working of the bureau, occasional disappointments have occurred owing to change in the conditions at a place between time of the issue of the report and the arrival of a fisherman who has perhaps sailed a couple of hundred miles on the strength of a bureau report. Such disappointments are occasionally unavoidable, and the only thing to do is to have the bureau news as recent as possible, trusting more to the telegraph than to the daily press for disseminating the information.

I attach hereto the report of Mr. A. Fraser on each separate fishery. It forms Appendix "B" to this report, and shows for the time the bureau was in operation, the movement of the various fishes and the character of the fishery as reported to the bureau.

Before closing this subject of my report, I would point out to you that in other countries money is spent freely for the purpose of giving information in regard to the fisheries by telegraph.

In Great Britain, for instance, the Scottish Fishery Commission have entered into arrangements with the Postmaster General whereby telegraphic communication has been extended to many remote points, the commission agreeing to make good any loss which may arise from the extensions, and during the season of 1889 they paid to the Postmaster General, on behalf of the fishermen, no less a sum than \$11,169.71, nearly nine times over the total amount which our bureau has cost.

For the coming year I estimate the cost of the bureau as follows:—

| | |
|---|-----------|
| Seven months' salary of clerk in charge | \$ 350 00 |
| Fifty reporters. | 750 00 |
| Telegraphy..... | 1,200 00 |
| Unforeseen contingencies | 200 00 |

Total expenditure proposed \$2,500 00

The expenditure on this bureau must not alone be regarded as valuable from the point of view of the fisherman; it is also of great value to me in directing the movements of the fishery protection cruisers. As the reporters keep the Central Bureau advised of the movements of foreign fishing vessels thus rendering the police patrol of our territorial waters much more efficient than it would be if dependent on the reports from our own vessels,

I think that this service may now be considered to have established itself in public favour, and as it is also of value as a police measure I would respectfully recommend that its operations be continued during the season of 1891.

STORM SIGNALS FOR THE FISHERMEN.

During the past season storm signals have been erected for the benefit of fishermen at Shippegan and Caraquette, on the New Brunswick coast. The masts have been erected at a minimum cost, and will be of great service to the fishermen at these places next season. As these storm signals are the only means by which the benefit of all our meteorological work can be conferred on the fishing community they should be erected at every port on the coast where there are a sufficient number of fishermen to warrant the expenditure.

For the coming season I would strongly recommend the following stations as places where storm signals would be of great benefit to fishermen.

Louisburg:—At this station there has been a storm signal in operation for years, but it had to be discontinued owing to the removal of the telegraph line; as this is now in the hands of the Telephone Company and in regular operation, the mast at this place, which I inspected this year and found in good condition, can be again used, and the only cost will be the renewal of the equipment and the payment of the salary to the agent, the same as formerly.

Tignish, P.E.I.:—This is the greatest boat harbour perhaps in the whole Gulf of St. Lawrence. Large numbers of the Tracadie and Caraquette fleet, who fish off the North Point, make this their shelter port during the week. Hence a storm signal would be of great value. This point can now be reached by telephone from Alberton.

Port Hood and Liscomb are also ports from which large fleets of boats go out to fish at great distances from land, and where storm signals would be of great value to fishermen; and at Paspebiac, in the Bay Chaleurs, those interested in the fisheries have asked me to secure for them the benefit of the system.

These four masts would cost about \$300 to erect, and the subsequent charge on the Meteorological Service would be about \$50 per station per annum, and I would respectfully urge on your notice the desirability of giving this aid to the fishermen at these ports.

METEOROLOGICAL WORK.

In my report of last year I pointed out that my experience on the coast had convinced me that the very greatest differences existed between the velocities of the wind on land and over the sea, and suggested that three wind stations should be established at points on the coast where the velocities observed would approximate more closely to those over the water

This proposal was approved, and during the season now closed, Inspector Payne, of the Meteorological Service, erected anemographs on Sambro Island, near Halifax, and at Low Point, near Sydney, C. B. An instrument was also put up on Sable Island, and in order to show the serious nature of the difference between the velocities I quote the following cases, comparing the coast stations with those which we previously had.

| | |
|--|--------------------|
| On 6th October, Sydney, old station 8 to 9 p.m. | 20 miles per hour. |
| do Low Point, new station, 8-9 p.m. | 48 do |
| On 17th October, at 10 a.m. warnings issued from the Meteorological Office for a heavy gale. | |
| Halifax, old station only records..... | 22 miles per hour. |
| Sable Island, New Station records..... | 38 do |
| Sambro Island, new station, records ... | 42 do |
| On 28th October at Halifax, Old Station from 5 a.m. to 11 a.m., highest velocity is | 15 do |
| Sambro, new station, velocity all the time from 47-49 | do |
| Sable Island, new station, do do 51-35 | do |
| On 1st December, Halifax, old station, highest velocity..... | 30 do |
| On 1st December, Sambro, new station, highest velocity | 72 do |

This was a very heavy gale, almost a hurricane, warned 10 a.m. 30th November, but Halifax, old station, showed little more than a strong breeze.

These new stations show the wind velocities which the sailor and the fisherman have to meet, and their value is already appreciated by the officers engaged in the issue of the forecasts. And as the position of the three stations is such that they form the angles of approximately an equilateral triangle, they are very advantageously situated for the purpose of making a determination of the wind velocities at sea in relation to barometric gradient.

CANADIAN FISHING VESSELS.

I would again draw your attention to the difficulty which our police vessels continue to find in distinguishing, at any little distance, the difference between Canadian and United States fishing vessels.

In previous reports I have dealt with the subject fully, and can only add that increased experience confirms my opinion that it is in the highest degree advisable to adopt some specific mark or device visible at a distance, which will enable our force to readily distinguish between domestic and foreign fishing vessels.

I have the honour to be, Sir,

Your obedient servant,

ANDREW R. GORDON.

APPENDIX A.

BEING List of United States Fishing Vessels which visited the Port of Canso, N.S., during the Year 1890.

| Dates of Arrivals. | Names of Vessels. | Ports of Registry. | Tons. | Men. | Whence Arrived. | If Licensed "L"; Unlicensed "U." | What in Port for. |
|--------------------|-------------------------|--------------------|-------|------|-----------------|----------------------------------|--|
| 1890. | | | | | | | |
| Jan. 16. | Lucy M. Dyer..... | Portland.... | 78 | 7 | Portland.... | U | Shelter, bound Nfld. |
| do 16. | Alice C. Jordan..... | Gloucester.. | 81 | 7 | Gloucester.. | U | do do |
| do 20. | Hereward..... | do | 85 | 7 | do | U | do do |
| do 23. | Herbert M. Rogers..... | do | 74 | 6 | do | U | do do |
| April 7. | Louise J. Kenny..... | do | 155 | 18 | Banks..... | U | Came in for license, left for Nfld |
| do 17. | Edward S. Eveleth..... | do | 84 | 14 | do | U | Repairs. |
| do 18. | Huntress..... | Eastport.... | 74 | 4 | Eastport.... | U | Shelter, bound Magdalens. |
| do 21. | Fanny W. Freeman..... | Gloucester.. | 90 | 14 | Gloucester.. | U | do do |
| do 21. | Abbie M. Deering..... | do | 96 | 18 | Banks..... | U | Came in for license, left for Nfld |
| do 22. | Eclipse..... | Eastport.... | 44 | 3 | Eastport.... | U | Shelter, bound Magdalens. |
| do 23. | William H. Wellington.. | Gloucester.. | 81 | 16 | Banks..... | U | Came in for license, left for Nfld |
| do 23. | Triton..... | do | 67 | 14 | do | U | do do |
| do 24. | H. B. Griffin..... | do | 117 | 16 | do | U | do do |
| do 24. | Laura Sayward..... | do | 64 | 12 | do | U | do do |
| do 24. | Lillian A. Allen..... | Portland.... | 106 | 16 | do | U | do do |
| do 24. | Willie M. Stevens..... | Gloucester.. | 71 | 16 | do | U | do do |
| do 24. | M. H. Perkins..... | do | 72 | 14 | do | U | do do |
| do 24. | Edith B. Coombs..... | Lamoine.... | 114 | 18 | Lamoine.... | U | do do |
| do 24. | Veata..... | Gloucester.. | 75 | 14 | Gloucester.. | U | do do |
| do 26. | Mist..... | do | 68 | 14 | Banks..... | U | do and obt'd license |
| do 26. | Wm. H. Jordan..... | do | 86 | 15 | do | U | Came in for license but refused because not inc. Nfld. |
| do 28. | Susie Hooper..... | do | 73 | 14 | Gloucester.. | U | do do |
| do 28. | Samuel R. Crane..... | do | 74 | 14 | do | U | do do |
| do 30. | Thetis..... | do | 91 | 16 | Banks..... | U | In for and obtained license. |
| May 1. | Herbert M. Rogers..... | do | 73 | 13 | do | U | do do |
| do 1. | John W. Campbell..... | do | 79 | 14 | Gloucester.. | U | Shelter and repairs. |
| do 1. | Martha A. Bradley..... | do | 72 | 14 | do | U | In for and obtained license. |
| do 2. | Joseph B. Maguire..... | do | 88 | 16 | do | U | Shelter. |
| do 3. | Ellen Lincoln..... | Portland.... | 92 | 16 | Banks..... | U | In for and obtained license. |
| do 5. | William M. Gaffney..... | Gloucester.. | 70 | 14 | Gloucester.. | U | Shelter. |
| do 8. | Olive Robinson..... | Portland.... | 61 | 9 | Portland.... | U | do |
| do 9. | Laura Sayward..... | Gloucester.. | 64 | 9 | Banks..... | U | In for and obtained license. |
| do 10. | Edith Whalen..... | do | 78 | 16 | do | U | Wood and water. |
| do 10. | Electa A. Eaton..... | do | 73 | 14 | Gloucester.. | U | In for and obtained license. |
| do 10. | Marguerite..... | do | 103 | 18 | Banks..... | U | Looking for men astray on Bks |
| do 10. | Centennial..... | do | 110 | 18 | Gloucester.. | U | Shelter |
| do 10. | Emma M. Dyer..... | do | 77 | 16 | do | U | do |
| do 10. | Carrie E. Parsons..... | do | 80 | 10 | do | U | In for and obtained license. |
| do 10. | David A. Story..... | do | 86 | 16 | Banks..... | U | Shelter. |
| do 10. | Edgar S. Foster..... | Beverly.... | 94 | 16 | do | U | do |
| do 10. | John L. Nickerson..... | Gloucester.. | 118 | 18 | do | U | do |
| do 10. | Dora A. Lawson..... | do | 119 | 18 | do | U | do |
| do 10. | George W. Pierce..... | Portland.... | 59 | 14 | Portland.... | U | In for and obtained license. |
| do 10. | Bertha May..... | do | 75 | 14 | Banks..... | U | Wood, water and repairs. |
| May 13. | Grace L. Fears..... | Gloucester.. | 84 | 16 | do | U | Wood, water and repairs. |
| do 13. | Louise J. Kenny..... | do | 155 | 13 | do | U | do do |
| do 15. | Margaret Mather..... | do | 91 | 16 | do | U | In for and obtained license. |
| do 15. | Julia E. Whalen..... | Boston..... | 96 | 18 | do | U | Shelter. |

APPENDIX A.—Being List of United States Fishing Vessels, &c.—Continued.

| Dates of Arrivals. | Names of Vessels. | Ports of Registry. | Tons. | Men. | Whence Arrived. | If Licensed, "L," Unlicensed, "U." | What in Port for. |
|--------------------|----------------------------|--------------------|-------|------|------------------|------------------------------------|-----------------------------------|
| 1890. | | | | | | | |
| May 15. | John S. Predden..... | Gloucester.. | 88 | 16 | Banks..... | U | Wood and water. |
| do 16. | Reporter..... | do | 79 | 16 | do | U | Wood, water and repairs. |
| do 16. | A. T. Gifford..... | do | 81 | 14 | Gloucester.. | U | In for and obtained license. |
| do 16. | Golden Hind..... | do | 70 | 14 | do | U | Shelter. |
| do 19. | Thomas F. Bayard..... | do | 95 | 16 | Banks..... | U | Look'g for men astray on B'ks. |
| do 20. | H. B. Griffin..... | do | 111 | 16 | do | U | do do |
| do 20. | Gertie E. Foster..... | do | 83 | 16 | do | U | Shelter. |
| do 20. | William H. Jordan..... | do | 86 | 16 | do | U | In for and obtained license. |
| do 20. | Carrie and Annie..... | Boston..... | 90 | 16 | Gloucester.. | L | Bait and ice. |
| do 20. | Monitor..... | Gloucester.. | 104 | 16 | do | U | In for and obtained license. |
| do 20. | Lizzie J. Greenleaf..... | do | 88 | 16 | do | U | do do |
| do 21. | Gladstone..... | do | 97 | 16 | do | U | do do |
| do 22. | A. T. Gifford..... | do | 81 | 14 | Souris, P. E. I. | L | To land one of crew sick. |
| do 22. | Mist..... | do | 68 | 14 | Banks..... | L | Bait and ice. |
| do 24. | Eclipse..... | Eastport..... | 44 | 4 | Magdalens.. | U | Medical treatment to one of crew. |
| do 29. | Fredonia..... | Gloucester.. | 109 | 18 | Gloucester.. | U | Shelter, mackerel seining. |
| do 30. | Laura Sayward..... | do | 64 | 12 | Banks..... | U | Bait and ice. |
| do 30. | Herbert M. Rogers..... | do | 73 | 14 | do | L | do |
| do 30. | Lizzie Griffin..... | do | 100 | 16 | Gloucester.. | U | In for and obtained license. |
| June 2. | Masconomo..... | do | 91 | 16 | do | U | do do |
| do 2. | Richard Lester..... | do | 69 | 14 | do | U | do do |
| do 2. | Electa A. Eaton..... | do | 73 | 12 | Banks..... | L | Bait and ice. |
| do 2. | Nellie G. Thurston..... | do | 81 | 14 | Gloucester.. | U | In for and obtained license. |
| do 2. | Porter S. Roberts..... | do | 72 | 14 | do | U | do do |
| do 2. | Blanche..... | do | 79 | 12 | do | L | Bait and ice, and ship men. |
| do 2. | Marsala..... | do | 76 | 14 | do | L | do |
| do 3. | Nellie M. Stevens..... | do | 76 | 16 | Banks..... | U | In for and obtained license. |
| do 4. | Procyon..... | do | 107 | 16 | do | U | Shelter. |
| do 4. | D. D. Winchester..... | do | 79 | 14 | do | U | In for and obtained license. |
| do 5. | Sarah B. Putnam..... | Beverley..... | 76 | 12 | do | L | Bait and ice. |
| do 5. | Henry Wilson..... | Gloucester.. | 88 | 16 | do | U | In for and obtained license. |
| do 5. | Ambrose H. Knight..... | do | 87 | 14 | Mack. fish'g. | U | Shelter. |
| do 5. | Laura Belle..... | Portland..... | 77 | 15 | do | U | do |
| do 7. | Herald of the Morning..... | Gloucester.. | 68 | 14 | do | U | do |
| do 7. | Alice C. Jordan..... | do | 81 | 15 | do | U | do |
| do 9. | Lillian A. Allen..... | Portland..... | 106 | 16 | Banks..... | L | Bait and ice. |
| do 9. | Maggie E. Wells..... | Gloucester.. | 80 | 14 | Gloucester.. | U | In for and obtained license. |
| do 9. | Edith Rowe..... | do | 80 | 17 | Mack. fish'g. | U | Shelter. |
| do 9. | Julia E. Whalen..... | Boston..... | 96 | 18 | Banks..... | U | do |
| do 9. | William M. Gaffney..... | Gloucester.. | 70 | 12 | do | U | do |
| do 9. | Caroline Vooght..... | do | 79 | 16 | Mack. fish'g. | U | do |
| do 14. | Lottie S. Haskins..... | do | 55 | 13 | do | U | do |
| do 16. | Lizzie M. Centre..... | do | 89 | 14 | do | U | do |
| do 16. | Marsala..... | do | 76 | 14 | Banks..... | L | Bait and ice. |
| do 17. | William H. Wellington..... | do | 81 | 17 | do | U | In for and obtained license. |
| do 17. | Laura Belle..... | Portland..... | 78 | 15 | Mack. fish'g. | U | Shelter. |
| do 17. | M. L. Wetherell..... | Gloucester.. | 65 | 15 | do | U | do |
| do 18. | Davy Crockett..... | do | 80 | 15 | do | U | do |
| do 18. | E. A. Williams..... | Boston..... | 35 | 5 | do | U | do |
| do 20. | Mabel W. Woolford..... | Gloucester.. | 104 | 18 | Gloucester.. | U | Shelter. |
| do 20. | Davy Crockett..... | do | 80 | 16 | Mack. fish'g. | U | do |
| do 20. | Dora A. Lawson..... | do | 119 | 18 | Banks..... | U | do |
| do 20. | Ambrose H. Knight..... | do | 87 | 16 | Mack. fish'g. | U | do |
| do 20. | Herbert M. Rogers..... | do | 73 | 14 | Banks..... | L | Bait and ice. |
| do 20. | Admiral..... | do | 73 | 13 | Gloucester.. | U | In for and obtained license. |
| do 20. | Mary J. Wells..... | do | 86 | 14 | do | U | do do |
| do 20. | Abby F. Morine..... | do | 77 | 14 | do | U | do do |
| do 20. | A. T. Gifford..... | do | 81 | 14 | do | L | Bait and ice. |
| do 20. | Lizzie J. Greenleaf..... | do | 88 | 16 | do | L | do |
| do 21. | Porter S. Roberts..... | do | 72 | 14 | Banks..... | L | do |

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Continued.*

| Dates of Arrivals. | Names of Vessels. | Port of Registry. | Tons. | Men. | Whence Arrived. | If Licensed "L"; Unlicensed "U." | What in Port for. |
|--------------------|----------------------|-------------------|-------|------|-----------------|----------------------------------|-------------------------------------|
| 1890. | | | | | | | |
| June 24. | Amy Hanson. | Boston. | 108 | 16 | Banks. | L | Bait and ice. |
| do 24. | Golden Hind. | Gloucester. | 70 | 14 | Gloucester. | U | In for and obtained license. |
| do 24. | Hattie L. Newman. | do | 93 | 16 | Banks. | U | do do |
| do 25. | Henry Wilson. | do | 88 | 14 | do | U | Bait and ice. |
| do 26. | Procyon. | do | 107 | 16 | Gloucester. | L | do |
| do 26. | Carrie W. Babson. | do | 85 | 18 | do | L | do |
| do 27. | Monitor. | do | 104 | 14 | do | L | do |
| do 27. | Ada M. Hall. | do | 95 | 14 | do | U | In for and obtained license. |
| do 30. | Ellen M. Adams. | do | 85 | 16 | do | U | do do |
| do 30. | Grace L. Fears. | do | 84 | 16 | do | U | do do |
| July 4. | Gladstone. | do | 97 | 16 | do | L | Bait and ice. |
| do 5. | Henry Wilson. | do | 88 | 15 | Banks. | L | Seeking bait. |
| do 7. | Hustler. | do | 92 | 16 | do | L | Bait and ice. |
| do 10. | Willie M. Stevens. | do | 76 | 16 | Gloucester. | L | do |
| do 10. | Blanche. | do | 79 | 14 | do | L | do |
| do 10. | Gov. Butler. | do | 87 | 17 | Mack. fish'g. | U | Shelter. |
| do 12. | Nellie N. Rowe. | do | 79 | 16 | do | U | do |
| do 12. | Nellie G. Thurston. | do | 81 | 14 | Banks. | L | Bait and ice. |
| do 12. | Ellen Lincoln. | Portland. | 92 | 15 | Mack. fish'g. | L | Shelter. |
| do 12. | Lizzie Griffin. | Gloucester. | 100 | 16 | Gloucester. | L | Bait and ice. |
| do 12. | Sarah B. Putnam. | Beverly. | 76 | 12 | Banks. | L | do |
| do 14. | Nellie N. Rowe. | Gloucester. | 79 | 16 | Mack. fish'g. | U | Shelter. |
| do 14. | Dora A. Lawson. | do | 119 | 18 | Banks. | L | Bait and ice. |
| do 15. | Laura H. Sayward. | do | 64 | 12 | Gloucester. | L | do |
| do 15. | D. D. Winchester. | do | 79 | 14 | do | L | do |
| do 15. | Abby M. Deering. | do | 96 | 16 | do | U | Shelter. |
| do 16. | Horace B. Parker. | do | 93 | 18 | do | L | Bait and ice. |
| do 16. | Herbert M. Rogers. | do | 73 | 14 | Banks. | L | Shelter. |
| do 16. | Mystic. | do | 79 | 16 | Gloucester. | L | Bait and ice. |
| do 16. | Bessie M. Wells. | do | 95 | 16 | do | L | do |
| do 16. | Lizzie M. Stanwood. | do | 100 | 16 | do | L | do |
| do 17. | Willie M. Stevens. | do | 76 | 14 | Banks. | L | do |
| do 17. | Henry Wilson. | do | 88 | 16 | do | L | do |
| do 18. | Carrie E. Parsons. | do | 80 | 12 | Gloucester. | L | do |
| do 18. | Rushlight. | do | 63 | 13 | do | U | Shelter. |
| do 19. | Susan L. Hodges. | do | 77 | 16 | do | U | In for and obtained license. |
| do 19. | Lillian A. Allen. | Portland. | 106 | 16 | Portland. | L | Coming Bay struck and became wreck. |
| do 19. | Marguerite. | Gloucester. | 103 | 18 | Gloucester. | U | Shelter. |
| do 19. | Lizzie J. Greenleaf. | do | 88 | 16 | do | L | Bait and ice. |
| do 21. | Edward Trevoy. | do | 88 | 16 | Mack. fish'g. | U | Shelter. |
| do 22. | Admiral. | do | 73 | 13 | Banks. | L | Bait and ice. |
| do 22. | Hustler. | do | 90 | 14 | do | L | do |
| July 22. | Triton. | do | 67 | 14 | Banks. | L | do |
| do 23. | Hustler. | do | 90 | 16 | Seeking bait. | L | Shelter, bound to Banks. |
| do 23. | Mist. | do | 68 | 14 | Gloucester. | L | Bait and ice, and to ship man. |
| do 23. | Winona. | do | 103 | 16 | do | L | Bait and ice. |
| do 23. | Reub. L. Nickerson. | do | 92 | 14 | Banks. | U | Shelter. |
| do 23. | Fanny W. Freeman. | do | 90 | 14 | Gloucester. | L | Bait and ice. |
| do 24. | Thomas F. Bayard. | do | 95 | 16 | do | U | In for and obtained license. |
| do 25. | Reporter. | do | 79 | 16 | Banks. | U | In for shelter. |
| do 26. | A. T. Gifford. | do | 81 | 14 | Gloucester. | L | In for bait and ice. |
| do 26. | Caroline Voight. | Booth Bay. | 79 | 5 | Pictou. | U | Shelter. |
| do 28. | Emma E. Wetherell. | Gloucester. | 101 | 16 | Gloucester. | L | Bait and ice. |
| do 31. | Andrew Burnham. | do | 86 | 15 | Mack. fish'g. | U | Shelter. |
| do 31. | Laura Belle. | do | 77 | 16 | do | U | do |
| do 31. | Gertie Evelyn. | do | 81 | 14 | Gloucester. | L | Bait and ice. |
| do 31. | Gracie C. Young. | do | 83 | 16 | do | L | do |
| do 31. | Minnesota. | do | 90 | 16 | Banks. | U | Shelter and water. |
| do 31. | Emma W. Brown. | do | 74 | 16 | Gloucester. | U | do |
| Aug. 1. | Grace L. Fears. | do | 84 | 16 | do | L | Bait and ice. |

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Continued.*

| Dates of Arrivals. | Names of Vessels. | Ports of Registry. | Tons. | Men. | Whence Arrived. | If Licensed "L," Unlicensed "U." | What in Port for. |
|--------------------|-----------------------|--------------------|-------|------|-----------------|-------------------------------------|------------------------------|
| 1890. | | | | | | | |
| Aug. 1. | Flora Dilloway | Gloucester | 77 | 12 | Gloucester | L | Bait and ice. |
| do 2. | Mystic | do | 79 | 14 | Banks | L | Ice. |
| do 4. | Procyon | do | 107 | 16 | do | L | Bait and ice. |
| do 4. | Flora Dilloway | do | 77 | 14 | Seeking bait. | L | Shelter, bound to Banks. |
| do 4. | Monitor | do | 104 | 16 | Gloucester | L | Bait and ice. |
| do 4. | Porter S. Roberts | do | 72 | 14 | Banks | L | do |
| do 4. | Samuel R. Crane | do | 74 | 14 | do | L | do |
| do 6. | Hustler | do | 92 | 16 | do | L | do |
| do 6. | Sea Fox | do | 105 | 18 | do | L | do |
| do 7. | Mary J. Wells | do | 86 | 14 | Gloucester | L | do |
| do 7. | Herbert M. Rogers | do | 73 | 14 | Seeking bait. | L | Shelter, bound to Banks. |
| do 7. | Golden Hind | do | 70 | 13 | Gloucester | L | Bait and ice. |
| do 7. | Masconomo | do | 91 | 16 | do | L | do |
| do 8. | Admiral | do | 81 | 14 | Banks | L | do |
| do 8. | Marsala | do | 76 | 14 | do | L | do |
| do 9. | Carl Schurz | do | 69 | 14 | do | U | Shelter, bound home. |
| do 11. | Sarah B. Putnam | Beverly | 76 | 14 | do | L | Bait and ice. |
| do 11. | John D. Long | Gloucester | 63 | 13 | Gloucester | L | do |
| do 13. | Gladstone | do | 97 | 16 | do | L | do |
| do 13. | Emma E. Wetherell | Boston | 101 | 16 | Banks | L | do |
| do 14. | Reub. L. Nickerson | Gloucester | 92 | 14 | do | U | Shelter. |
| do 14. | Amy Hanson | Boston | 108 | 16 | do | L | Bait and ice. |
| do 14. | Lizzie Smith | Gloucester | 73 | 14 | Gloucester | L | do |
| do 15. | Grace L. Fears | do | 84 | 16 | Banks | L | do |
| do 16. | William H. Wellington | do | 81 | 16 | do | L | do |
| do 18. | Triton | do | 67 | 14 | do | L | do |
| do 18. | Mystic | do | 78 | 16 | Gloucester | L | do |
| do 19. | M. H. Perkins | do | 72 | 14 | do | U | Shelter. |
| do 19. | Carrie W. Babson | do | 86 | 18 | Banks | L | Bait and ice. |
| do 20. | Carrie and Annie | Boston | 90 | 16 | do | L | Anchor and ship stores. |
| Aug. 20. | J. H. Carey | Gloucester | 95 | 16 | Banks | L | Bait and ice. |
| do 20. | Hattie Maud | do | 86 | 16 | do | U | Shelter. |
| do 20. | Henry Wilson | do | 88 | 16 | Seeking bait | L | Shelter, bound to Banks. |
| do 20. | Mary J. Wells | do | 80 | 16 | Gloucester | L | Bait and ice. |
| do 20. | Flora Dilloway | do | 77 | 14 | Banks | L | do |
| do 21. | Masoot | do | 77 | 14 | North Bay | U | Shelter. |
| do 22. | Hustler | do | 92 | 14 | Banks | L | Bait and ice. |
| do 22. | Gertie E. Foster | do | 83 | 14 | Gloucester | U | In for shelter. |
| do 22. | Centennial | do | 110 | 16 | do | U | Shelter. |
| do 22. | Northern Eagle | do | 65 | 12 | Mack. fish'g. | U | do |
| do 23. | Gracie C. Young | do | 83 | 16 | Gloucester | L | Bait and ice. |
| do 24. | Northern Eagle | do | 65 | 12 | Mack. fish'g. | U | Shelter. |
| do 24. | Eliza B. Campbell | do | 95 | 16 | Gloucester | L | Bait and ice. |
| do 25. | Lizzie B. Griffin | do | 100 | 16 | do | L | do |
| do 25. | Mystic | do | 78 | 16 | do | L | do |
| do 25. | Fanny Freeman | do | 90 | 15 | do | L | do |
| do 25. | Lizzie J. Greenleaf | do | 88 | 16 | do | L | do |
| do 25. | A. T. Gifford | do | 81 | 14 | do | L | do |
| do 25. | Saml. R. Crane | do | 74 | 14 | do | L | do |
| do 25. | D. D. Winchester | do | 79 | 14 | do | L | do |
| do 27. | Nellie M. Davis | do | 89 | 14 | do | L | do |
| do 27. | Fannie A. Sparling | do | 81 | 14 | do | L | do |
| do 27. | Chas. H. Boynton | do | 71 | 14 | do | L | do |
| do 29. | Centennial | do | 110 | 16 | do | L | In for and obtained license. |
| do 29. | Thetis | do | 91 | 16 | do | L | Bait and ice. |
| do 29. | John W. Plummer | Portland | 95 | 16 | do | U | Shelter. |
| Sept. 1. | Amy Hanson | Boston | 108 | 16 | do | L | Stores, water; bound home. |
| do 8. | Centennial | Gloucester | 110 | 16 | Seeking bait | L | Ice. |
| do 9. | Rigel | do | 107 | 16 | Banks | L | Bait and ice. |
| do 10. | H. B. Griffin | do | 107 | 14 | do | U | Repairs, water |
| do 10. | M. S. Ayer | do | 76 | 14 | do | L | Bait and ice. |
| do 13. | Dido | do | 77 | 14 | do | L | do |

APPENDIX A.—Being List of United States Fishing Vessels, &c.—*Concluded.*

| Dates of Arrivals. | Names of Vessels. | Ports of Registry. | Tons. | Men. | Whence Arrived. | If Licensed "L"; Unlicensed "U." | What in Port for |
|--------------------|--------------------------|--------------------|-------|------|-----------------|----------------------------------|--|
| 1890. | | | | | | | |
| Sept. 13. | Henry Wilson | Gloucester.. | 88 | 14 | Banks | L | Bait and ice. |
| do 13. | William H. Wellington.. | do .. | 81 | 14 | Gloucester.. | L | do |
| do 15. | Joseph B. Maguire | do .. | 88 | 16 | do | U | Shelter. |
| do 16. | Gertie May | Portland .. | 97 | 14 | Banks | U | Repairs and wait spare suit sails from home. |
| do 16. | J. H. Carey | Gloucester.. | 96 | 16 | Gloucester.. | L | Bait and ice. |
| do 22. | Abby M. Deering | do .. | 96 | 14 | Banks | L | do |
| do 22. | Hattie Maud | Portland .. | 86 | 16 | do | L | do |
| do 22. | Grace L. Fears | Gloucester.. | 84 | 16 | do | L | Repairs and wait spare suit sails from home. |
| do 23. | Maggie E. Wells | do .. | 80 | 14 | Gloucester.. | L | Bait and ice. |
| do 24. | Everett Pierce | do .. | 64 | 10 | Banks | U | Shelter and repairs. |
| do 24. | Hattie L. Newman | do .. | 93 | 16 | Gloucester.. | L | Bait and ice. |
| do 24. | Procyon | do .. | 107 | 18 | do | L | do |
| do 25. | Lizzie M. Stanwood | do .. | 100 | 16 | do | L | do |
| do 25. | Winona | do .. | 103 | 16 | do | L | do |
| do 26. | Chas. H. Boynton | do .. | 71 | 14 | Banks | L | do |
| do 27. | Ellen Lincoln | Portland .. | 92 | 17 | Mack. fish'g. | L | Shelter. |
| do 27. | Blanche | Gloucester.. | 79 | 14 | Gloucester.. | L | Bait and ice. |
| do 29. | Triton | do .. | 67 | 14 | Banks | L | do |
| Oct. 1. | Epas Tarr | do .. | 66 | 14 | do | U | Shelter. |
| do 1. | Bessie M. Wells | do .. | 92 | 16 | Gloucester.. | L | Bait and ice. |
| do 2. | Enola C. | do .. | 62 | 16 | Mack. fish'g. | U | Shelter. |
| do 6. | Ralph E. Eaton | do .. | 65 | 13 | do | U | do |
| do 6. | Chas. S. Tappan | do .. | 68 | 12 | do | U | do |
| do 6. | Hustler | do .. | 92 | 15 | Banks | L | Bait and ice. |
| do 6. | Arthur Clifford | Provincet'n | 80 | 13 | do | U | Wood and water. |
| do 7. | Dido | Gloucester.. | 77 | 15 | do | L | Bait and ice. |
| do 13. | A. T. Gifford | do .. | 81 | 14 | Gloucester.. | L | do |
| do 13. | D. A. Wilson | Beverly .. | 86 | 14 | Banks | L | do |
| do 13. | Procyon | Gloucester.. | 107 | 18 | Gloucester.. | L | do |
| do 13. | John W. Plummer | Portland .. | 96 | 16 | Banks | U | Shelter. |
| do 17. | Grace L. Fears | Gloucester.. | 84 | 16 | do | L | Bait and ice. |
| do 20. | Golden Hind | do .. | 70 | 14 | Gloucester.. | L | do |
| do 20. | William H. Foye | do .. | 67 | 12 | do | U | Shelter. |
| do 22. | Sunshine | do .. | 63 | 12 | Mack. fish'g. | U | do |
| do 23. | Mabel W. Woolford | do .. | 104 | 18 | Banks | L | Bait and ice. |
| do 24. | Ambrose H. Knight | do .. | 87 | 12 | Mack. fish'g. | U | Shelter. |
| do 25. | Golden Hind | do .. | 70 | 13 | Seeking bait | L | do |
| do 25. | W. L. Wetherell | do .. | 65 | 15 | Mack. fish'g. | U | do |
| do 27. | Golden Hind | do .. | 70 | 13 | Banks | L | do |
| do 31. | Annie C. Hall | do .. | 84 | 13 | do | L | Bait and ice. |
| Nov. 1. | Senator Morgan | do .. | 86 | 17 | Mack. fish'g. | U | Shelter. |
| do 3. | Martha and Susan | do .. | 67 | 13 | Banks | U | Wood and water. |
| do 5. | Maggie E. Wells | do .. | 80 | 14 | Gloucester.. | L | Bait and ice. |
| do 5. | Hustler | do .. | 92 | 16 | Banks | L | do |
| do 6. | John S. McQuin | do .. | 77 | 14 | Mack. fish'g. | U | Shelter. |
| do 7. | Minnesota | do .. | 90 | 16 | Banks | U | Shelter and repairs. |
| do 7. | Dora A. Lawson | do .. | 119 | 18 | do | L | Shelter and supplies. |
| do 7. | Marion Grimes | do .. | 58 | 15 | Mack. fish'g. | U | do |
| do 8. | Flora Dilloway | do .. | 77 | 14 | Banks | L | Bait and ice. |
| do 8. | Centennial | do .. | 110 | 16 | do | L | do |
| do 8. | Carrie and Annie | Boston .. | 90 | 16 | do | L | do |
| do 13. | Golden Hind | Gloucester.. | 70 | 14 | do | L | do |
| do 13. | Henry Wilson | do .. | 88 | 16 | do | L | do |
| do 13. | Mabel W. Woolford | do .. | 104 | 18 | do | L | Bait & ice, repairs & stores. |
| do 17. | Alert | do .. | 87 | 16 | do | U | Shelter and repairs. |
| do 17. | Lizzie M. Centre | do .. | 77 | 16 | Mack. fish'g. | U | Shelter. |
| do 17. | John W. Plumer | Portland .. | 75 | 16 | Banks | U | do |
| do 24. | Carrie and Annie | Boston .. | 90 | 16 | do | L | Shelter, bound home. |
| do 25. | A. E. Whyland | Gloucester.. | 123 | 8 | Gloucester.. | U | Shelter, bound Nfid. for herring |

APPENDIX "B."

REPORT BY MR. ALEX. FRASER, B. A., CLERK IN CHARGE OF THE
FISHERIES INTELLIGENCE BUREAU, WITH HEADQUARTERS AT
HALIFAX, N. S., FOR THE SEASON OF 1890.

FISHERIES FROM 24TH JUNE TO 31ST OCTOBER, 1890.

HERRING.

Quebec.

Percé, P. Q.—Very plentiful outside from 14th to 27th August, and good catches occasionally. No reports since.

Grand River.—Fair catches 23rd to 28th July and 1st to 7th August.

Paspebiac.—Fair 1st to 2nd August, and good 7th to 14th.

Prince Edward Island.

Malpeque.—Schooling 5th July.

Panmure Island.—Struck in 30th June.

Cape Breton.

Port Hood and Mabou.—None at the former in June, but a few good catches at the latter. Fair at both places during the first part of July, none at either in August, but fair at both about 17th to 20th Sept. A very good haul at the former 3rd and 7th October, 150 barrels each day. Margaree averaged about the same as Mabou.

Cheticamp.—Very few reports.

Meat Cove and Ingonish.—A few good catches last part of June but no others reported.

St. Ann's.—Good catches from June 24th to July 18th.

North Sydney.—Struck in four miles off on 27th June and on 2nd July. Struck in all along the shore. 22nd July struck in at Mira Bay. Until the end of the month good catches were made at Sydney. After this no reports.

L'Ardoise.—Catch poor all June, average catch fair all July. From 28th July to 7th August the catch was very good. No reports from that date till 6th September, which said that during that week herring struck in, but few taken as they were not looked for, it being very unusual at that time of the year.

Arichat.—Good catches during June and July and first and last weeks of August. Fair 1st to 22nd September, when they struck off. Struck in again on the 29th and continued fair until about the 8th of October.

St. Peter's.—Fair June and first part of July. 29th July very good but no reports again until 3rd September, when the catch was good. 4th to 11th September poor, none since.

Nova Scotia.

Canso.—Very poor until August, when the catch was fair from the 1st to 7th. The average catch was very good from 1st to 22nd September, the best of the season being made in the vicinity of the 15th. In October the scarcity has been unprecedented.

White Head.—Fair last of June and nearly all of July, and 1st to 18th August, also catch very good 1st to 11th September. Good about the last of October.

Spry Bay.—Good 1st to 4th September. None 4th to 8th. Fair 8th to 11th.

Musquodoboit Harbour.—Reports very few.

Lunenburg.—Very scarce until 3rd September when they struck in all along the shore from the 4th to 11th; the catch was very good. On the 12th they struck off, but struck in at Mud Island; a few remained, however, until the 20th, when they all disappeared. They returned on 29th and continued very plentiful until 11th October.

Port Medway.—Few good catches made during the season. The dates of the strikes were 11th July, 24th September.

Lockeport.—Fair 24th June to 1st July. The average catch during the whole month of August was good, and 1st to 8th September very good; no reports worthy of mention since.

Sandy Point.—Good catches of fat herring during the latter part of June. Slacked off then but struck in again 4th July, they then were interfered with by dogfish and were kept off until 1st August, when the dogfish struck off. The herring then struck in, and for some time about 900 per boat were taken. They seemed to continue plentiful until the 24th September.

Port LaTour.—Good in June, very good about 24th July, and good 7th August to 11th September, when they slacked off. Struck in again 29th September, and fair catches were made off and on until 25th October.

Yarmouth.—Struck in 26th July. No other report.

John's Island and Pubnico.—Struck in on 1st September, and very good catches were made until the 10th.

Freeport.—Struck in 17th of July and struck off the 19th.

New Brunswick.

Grand Manan.—Sardine herring reported abundant during the whole season, especially in July. Net herring fair.

Campobello.—Sardines very plentiful, and net herring fair on the average during the whole season. The strikes were: 1st July, sardines; 28th July, sardines; 16th August, net. In September, from the 4th to the 11th, fishing of all kinds was the best known for years. The fisheries at Beaver Harbour have done much the same as Campobello. Large herring struck in there on 7th October. After this the fisheries began to decline.

SQUID.

Quebec.

Percé.—Struck in 3rd September. Fair quantity 8th and 9th September, and very plentiful 13th; also very plentiful 3rd October.

Grand River.—Very plentiful 3rd October.

Paspebiac.—Small quantity 3rd October.

Cape Breton.

Port Hood.—Good supply 20th September and 25th October.

Margaree.—Fair supply 21st July.

Meat Cove.—Schooling north 21st July, fair supply 24th September.

Ingonish.—Struck in the 8th July. Good supply on 28th August. Struck in 11th October.

Arichat.—Struck in 18th July.

Sydney.—Struck in 13th October.

Nova Scotia.

Crow Harbour.—Good supply from 30th June to 1st August.

Canso.—Fair 1st July. Good 24th July, better 30th July. 1st to 15th September good supply.

Spry Bay.—Very good quantity 22nd July.

Lunenburg.—Fair 21st July, large schools 29th July.

Campobello.—Fair supply 21st and 29th July.

MACKEREL.

The most northern stations at which mackerel of any note have been reported during the season is Point Escuminac, N. B. Here mackerel struck in on 25th June, when about 100 were hooked. A few were taken each day until 8th July, when the catch was good. On the following day they struck off, but returned on the 10th, and a few were taken pretty much every day until 13th September, when the fishing season there closed. The best catches of the season were made from 4th to 11th September.

Prince Edward Island.

About the first reports received indicated that the mackerel fishery was doing well on the north of the Island from Egmont Bay round to Alberton the mackerel being of good size. Towards the latter end of July and up to the 14th August, the best catches of the season were made in this vicinity (the north), 500 and 1,000 per boat being hooked, excepting on the 25th August, when the hookers averaged 2,000 per boat at Miminegash, Nail Pond, Tignish, Kildare and Alberton. From this time until the end of the season the fishery was poor. The reports from Malpeque show that the catch in that vicinity was on the average fair.

On the south side of the Island no mackerel reported at Souris in June, reported schooling there 5th July, after which the catch was good for a few days, but again slackened off. On 21st July reported schooling again after which the catch was better and continued very good until about 10th August, after which it was very poor during the greater part of the remainder of the season. At Lakeville the catch was good from 9th to 15th September. In the vicinity of Georgetown the state of the mackerel fishery has been about the same as that at Souris. A few struck in at Boughton Island on 30th June, and good catches were being made quite regularly up to the 10th August. Schools reported there 7th, 21st and 31st July. hookers did well at Grand River, P. E. I., from 20th September to 3rd October, after which time very few mackerel were taken on the south of the Island.

The mackerel on the south kept well inshore all season, and gave theseiners no chance. Some late reports say that no schools appeared on the south until 29th July, and that those reported before were small herring and mackerel mixed together

Cape Breton.

First reports of mackerel at Port Hood and Mabou were about the 1st of July, about which time fair catches were being made. Very few reported at either of those places since that. About 20th September, fair catches were made at Port Hood and a few large fat ones struck in 29th October, which was no doubt the beginning of the fall school. At Margaree the first school reported was 31st July, the since then it is reported that they were plentiful, but yet the catch was on the average small.

Very few reports from Cheticamp.

Meat Cove.—A few were taken here during the first half of August and 5th to 20th September.

Ingonish.—A few tinkers, August best about the 11th.

St. Ann's.—None reported.

North Sydney.—Began to show 14th August, but few reported after that. Struck in again on 18th October.

L'Ardois.—A few taken now and then in June, July and August. Schooling 9th. August

Arichat.—Catch on the average fair, best reports being for the week ending 25th July, schooling 9th August, good catch about 22nd September, and fair last week of October.

St. Peters.—Some mackerel mixed with herring last part of June, struck in alone 31st July. The best catches were made last part of September, the catches being good almost every day from the 15th to the 29th.

Nova Scotia.

Bayfield.—1,000 taken in nets 25th June, and fair catches from that on to the 30th, when 5,000 were taken. In July the catch was fair.

Canso.—Few reports; a few taken about 19th September; a few large fat ones struck in 24th October, which likely was the first appearance of the fall school.

Spry Bay.—None reported.

Musquodoboit Harbour.—None reported.

Lunenburg.—A few taken from 24th June until the first week of July, when they became very plentiful and continued so until the 29th, when they struck off. They struck in again the 8th August, and were schooling in the harbour until the 14th, when they became much scattered by the large schools of squid, and again struck off. They appeared again on the 26th, but struck off again on the 27th. A few remained and were taken in small quantities until 20th September, when all struck off. They appeared again schooling on the 24th, and good catches were made until the end of the month. The catch was reported fair during the first week of October, but after that none reported.

Port Medway.—Mackerel struck in four miles off on 25th June, and a few were taken during the remainder of the month and up to 11th July, when they struck in in larger quantities, schooling on the 19th, and continued very plentiful until about the end of the first week in August. After this reports were few until the first week of October during which a few were taken.

Sand Point.—Very few reports, reported schooling 9th August.

Port La Tour.—Very few reports, schooling 11th and 12th July.

Lobster Bay.—Schooling and good catches pretty much all the time from 12th July to the end of the season.

St. Mary's Bay.—Very plentiful during the whole month of September, after that tinkers were still plentiful but were very wild, being very much frightened by the seines. A great many were seined in September.

Digby.—None reported by regular correspondent but I heard from other sources that some good catches were made in Digby Neck.

Pubnico and St. John Island.—Very good catches made during July, August and September.

New Brunswick.

Campobello, N.B.—Mackerel (small) taken in good quantities in this vicinity from middle of August to middle of September, the best takes for years having been made from 4th to 11th September.

COD, HAKE AND HADDOCK

Quebec.

Percé.—From the 25th of July to the 30th the catch of cod was on the average poor. Very good on the 30th. During the month of August when there was any fishing it was poor. About the 5th September, there was a fair catch of cod and haddock; on the 8th and 9th cod fair and good to the 13th; from that out the catch averaged fair. The fishermen reported cod plentiful, but bait was, as a rule, very scarce, and the weather very rough.

Grand River.—Here very little was done inshore during the season, but the bankers, as a rule, made fairly remunerative trips.

Paspebiac.—This was the best station in the north for cod. When bait could be got and the weather any ways favourable, a very good catch could be made. Very good hauls were made here and there in July, August, September and October.

Caraquette and Shippegan.—The fisheries here this season are reported a total failure. In September the fishermen got discouraged and left their own shores for those of Prince Edward Island, where they did much better.

Escuminac.—A few cod were being taken from day to day during the season from 1st July to 13th September. The best fishing of the season was done from 4th to the 11th September.

Prince Edward Island.

Miminegash.—Hake fishing good about the 13th and 14th of August.

Malpeque.—Hake struck in the 14th August, and fair catches of cod were being made during the first week of September and about the first two or three days of October.

Souris.—A few fair catches of cod in June, but none noted since. Hake struck in all along the shore from Souris to East Point, on 24th July, and continued plentiful until 3rd October, very good hauls having been made about 25th July, 1st to 7th August, and 20th September to 3rd October.

Georgetown. A few fair catches made in June and about the 1st July.

Cape Breton.

Port Hood.—During the month of June the cod and haddock fisheries were on the average good. Also during July, until the 17th, when they fell to poor. On that date hake struck in and continued very good, while cod and haddock continued poor until the 25th, when all three became fair and remained so until about the 11th August, when all the fisheries became very dull and remained so until 16th September. Both bait and fish greatly improved, and cod, hake and haddock were taken in good quantities pretty much every day during the remainder of the month. The last week of the month, however, was poor and continued so until 25th October, from which date up to the end of October, the best fishing of the season in cod, hake and haddock was done.

Mabou.—Average of cod and haddock was fair June to July, but very poor during the whole of August. Cod and hake were good from 18th September until 14th October.

Magaree.—During the months of June and July the average catch of cod was very good, but in August, September and October very few were caught, though the fish were still plentiful. The obstacle reported being as a rule scarcity of squid and rough weather.

Cheticamp.—June and July, average catch good, but from that time till the 24th October, the fisheries were much the same as at Magaree 24th October and 25th, the catch of cod was very good, squid bait having been obtained.

Meat Cove.—Just about the same as Cheticamp.

Ingonish.—Catch of cod only fair on the average in June and July; some improvement from 2nd August to 22nd August. Also fair catches 9th and 2th October.

St. Ann's.—Catch of cod on the average good from 24th June up to 25th August, also a few good catches of hake and haddock during the month of August. From the 25th August to 9th October, very little fishing of any kind was done. Then some improvement was reported on St. Anns Bank.

North Sydney.—A few poor catches here and there through August and July.

Louisburg.—Fair catches of cod from the time first report was received in August until the close of the season. Fish as a rule, were plentiful, but strong currents prevented good catches.

L'Ardoise.—Cod very good from 23rd July till the end of the first week in August.

Arichat.—Good cod pretty much all July and first week in August. Since that time very little done until 22nd September, when the catch was good. Also some fair catches made in about the 8th, 17th and 31st October.

St. Peters.—Fair cod 28th July to 5th August, and 9th to 16th October.

Nova Scotia.

Canso.—Some very good catches of cod in the first part of July and the first week of August. Also during first week of September, but in last part of September and October the scarcity of fish has been unprecedented at White Head and Ignace Harbour. About the same as Canso. Cod good at White Head 27th October, and fair at Canso on the 31st.

Spry Bay.—Catch of cod ranging from fair to good in July, one or two good catches in August; one very good on 27th August. Good catches of cod on 1st to 4th September; fair 8th to 11th.

Musquodoboit Harbour.—A few very good catches of cod in June, July and September (reports not good).

Lunenburg.—Cod fishing good all June. Cod and haddock very good the first few days of July; slacked off until the 5th August, when cod became plentiful off shore, and continued during September.

Port Medway.—Cod good 24th June, but after that owing to the presence of dogfish were scarce until about the middle of July, when cod and haddock became plentiful and continued so for a few days. The cod were again very plentiful about 27th August. Good takes were made again on 4th to 11th September. A few taken the first few days of October.

Lockport.—Cod fair to good in June, but very scarce in July owing to dogfish. 5th August. The catch was very good and good from the 16th to 27th. 1st to 10th September, the catch was fair.

Sand Point.—Cod and haddock good in June, but very scarce in July until the first of August owing to dogfish. On the 1st of August the dogfish struck off and then the cod, haddock and herring struck in and fair catches were made for some few days.

Port La Tour.—Cod and haddock very plentiful in deep water some miles off from 23rd of July until 4th of August, when dogfish interfered with them and prevented fishing. Good catches were made some miles off the latter half of August and former half of September. Also very good catch of cod on 4th October.

Pubnico.—During the last few days of July, the first half of August and the first half of September the catch of cod was very good.

Digby.—Cod and haddock good in June. First part of July poor fishing. On 22nd July hake struck in and continued very plentiful until 4th August, when the dogfish struck in and drove them off. None appeared since.

New Brunswick.

Grand Manan.—About 22nd of July hake struck in at Grand Manan as well as at Digby, and continued plentiful until the 4th of August, when the whole bay became infested with dogfish which drove them off. From last few days in August to the end of the season there was good fishing in cod and pollock.

Campobello.—Cod hake and haddock fisheries did well here from 23rd of July until the end of the season, the best fishing in the three years having been done from 4th to 11th September.

Beaver Harbour.—Reports much the same as Campobello.

Reports from Banks not regular enough to enable me to make a synopsis, but the general tenor seems to be that with squid bait and fair weather the bankers were successful.

ALEX. FRASER,

Clerk in charge F. G. Bureau.

SUPPLEMENT No. 1 TO THE ANNUAL REPORT

OF THE

DEPARTMENT OF FISHERIES

FISHERIES STATEMENTS

AND

INSPECTORS' REPORTS

For the Year

1890.

PRINTED BY ORDER OF PARLIAMENT.



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MAJESTY.

1891.

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TO THE

SUPPLEMENT No. 1 TO THE ANNUAL REPORT

OF THE

DEPARTMENT OF FISHERIES

1890.

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REPORT

ON THE

FISHERIES OF THE DOMINION OF CANADA

FOR THE YEAR 1890.

To the Honourable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—To be again able to report that the Canadian fisheries, as a whole, are in thriving condition and steadily improving in yield and value is very gratifying. With the exception of the Provinces of Quebec and New Brunswick, where a decrease of \$629,058 is noticeable, principally due to the partial failure of the cod-fishery, an examination of the statistics will show an increase in all the other Provinces.

PRODUCE OF THE FISHERIES.

The following figures represent the total value of the fisheries of the Dominion of Canada for the year 1890 :—

| | |
|--|-------------------------|
| Nova Scotia..... | \$ 6,636,444 64 |
| British Columbia..... | 3,481,432 29 |
| New Brunswick..... | 2,699,055 02 |
| Ontario..... | 2,009,637 37 |
| Quebec..... | 1,615,119 76 |
| Prince Edward Island..... | 1,041,109 20 |
| Manitoba and the North-West Territories..... | 232,104 05 |
| Total..... | <u>\$ 17,714,902 33</u> |

This is exclusive of the quantity consumed by the Indian population of British Columbia, Manitoba and the North-West Territories, of which no accurate data are at hand, but which, it is believed, would increase this total value to fully \$21,000,000.

In order to give some idea of the extent of capital invested in Canadian fisheries, see statements, pages xxiv, xxvii, showing the number, tonnage and value of fishing vessels and boats, the material employed and the number of fishermen.

DETAILS.

The following table shows the value of the principal kinds of commercial fishes exceeding \$100,000, as well as the increases and decreases in value:—

| Kind of Fish. | Amount. | Increase compared with 1889. | Decrease compared with 1889. |
|-----------------|-----------|------------------------------|------------------------------|
| | \$ | \$ | \$ |
| Cod..... | 3,433,580 | | 184,660 |
| Salmon..... | 3,036,569 | | 106,356 |
| Herring..... | 1,958,492 | | 539,865 |
| Lobsters..... | 1,648,344 | 163,856 | |
| Mackerel..... | 1,524,976 | 594,580 | |
| Whitefish..... | 767,657 | 82,561 | |
| Trout..... | 625,286 | 71,917 | |
| Haddock..... | 532,068 | | 880 |
| Seal skins..... | 516,956 | 149,673 | |
| Hake..... | 377,440 | | 97,416 |
| Fish Oils..... | 315,034 | | 92,781 |
| Smelts..... | 283,443 | | 15,508 |
| Pollock..... | 273,548 | | 36,236 |
| Alewives..... | 192,452 | 26,011 | |
| Pickarel..... | 173,420 | | 8,961 |
| Oysters..... | 171,778 | | 18,119 |
| Halibut..... | 120,672 | | 39,387 |
| Sturgeon..... | 116,991 | 14,864 | |
| Sardines..... | 115,752 | 44,340 | |

THE FISHERIES OF NOVA SCOTIA.

Instead of the large shortage of nearly one million and a-half dollars mentioned in last year's report, the yield of the fisheries of this Province show an increase of \$289,772.

This increase is principally in the cod, herring, shad and squid fisheries.

Had it not been for the very boisterous weather experienced in the fall and the failure of bait in most places, at the proper time, the catch of cod would have yielded a much larger figure. Neither was the fishery pursued with as much vigour as in former years. In Cape Breton especially, where people found ready employment on the railway, many sought it in preference to fishing.

Herring shows the large increase of nearly 5,000 barrels. On this subject the local Inspector of fisheries makes some very pertinent remarks about the necessity of having better and stricter inspection of fish. The low estimation in which the Cape Breton herring has fallen into public favour, is justly ascribed to the want of such inspection as well as to frauds practised on the public; and the sooner proper remedies are applied, the better it will be for the trade and the fishermen.

Lobsters show a slight increase, especially in fish shipped fresh alive. This increase is ascribed to favourable weather in some localities and a general improvement in the fishery.

The shad fishery exhibits a gratifying increase; but it is evident that additional legislation will be required to check present abuses and to insure the future of this important industry.

Contrary to former apprehensions, mackerel shows an increased catch of nearly \$500,000. The fish were of excellent quality and the prices obtained much better than in previous years.

Squid, a fish exclusively used for bait, has become an important factor in the fishing industry of Nova Scotia, owing principally to the enforcement of the Newfoundland Bait Act. They are principally caught in trap-nets and seines, and the total value sold to the Bank fishermen exceeds \$25,000.

NEW BRUNSWICK.

The returns for this Province show a falling off in the catch of \$367,984, partly due to failure in the large herring and salmon fisheries. The other kinds compare favourably with last year; among them, the cod, mackerel, alewives and lobster fisheries showing very satisfactory results.

The comparative failure in the large herring fishery is ascribed by some persons to the practice of leaving nets all day in the water, by which it is claimed the schools are frightened and debarred from nearing the shores. The demand for sardine herring was brisk, and good prices were obtained. It is also claimed that the enormous catch during the past few years of what are called sardine herring, is now seriously depreciating the herring fishery.

The salmon fishery was fair in the estuaries of rivers and in some sheltered places on the coast; but the weather kept so stormy during the whole season, that a large number of nets were destroyed and fishing had to be abandoned in exposed localities. However, the spawning grounds are reported to have been visited by large numbers of breeding salmon.

PRINCE EDWARD ISLAND.

The returns for this Province exhibit the gratifying increase of \$154,678 over the year 1889. This is due to an early opening of the season and to other favourable circumstances.

Spring herrings which are used for bait in lobster and mackerel fishing were unusually early and abundant.

A larger number of lobster factories were in operation than during the previous season; the fish also being abundant and of fair size.

Mackerel proved comparatively scarce; but, as the fish were of excellent quality and prices ruled high, the results were very satisfactory to the fishermen.

Oysters show a decreased output of 6,054 barrels. This was due to stormy weather in the fall. Some beds are becoming less productive every year, owing to over-fishing in the past; and stringent measures will be required to save them from utter annihilation. In this connection, the local Inspector of Fisheries strongly condemns the practice of winter fishing by which young and unmarketable oysters are left on the ice to perish, or fall back in the water when the ice melts in the spring, to the great injury of the beds. The re-stocking of depleted beds, and the leasing of oyster fishing grounds to private persons, is now engaging the Department's attention, and is fully dealt with in the main report.

QUEBEC.

The returns for this Province show a decrease of \$261,074, as compared with 1889. This is principally accounted for by a reduced catch of cod, herring and seal, owing to the unprecedented severity of the season and to the damage caused to fishing gear by heavy gales and stormy weather.

The cod fishery began well; but, as the season advanced, bait became scarce, the weather kept rough and the result was a deficit of 32,094 cwt. in the catch.

The fall herring fishery was a failure; heavy weather keeping the fish off shore. The practice of using unspawned herring in enormous quantities, during the spring, for manuring purposes, is ascribed by many persons as having something to do with the failure of this fishery; and in this connection, it is proposed that the practice of using herring for manure be prohibited.

Seals were abundant in the gulf; but, owing to pack ice, schooners experienced great difficulty in reaching the fields, and the result was a partial failure.

The salmon fishing proved unremunerative on the south side of the River St. Lawrence, and in the Bay des Chaleurs. It was better on the north shore and on the coast of Labrador.

The lobster catch was about the same as in 1889.

Mackerel fishing was somewhat better than during the previous year.

The yield of the fisheries in the inland waters of the Province shows a steady improvement.

ONTARIO.

The yield of the fisheries in this Province is also very satisfactory; the figures being \$2,009,637 against \$1,963,122 for 1889, an increase of \$46,514. Whitefish and salmon trout gave increased catches, while the other branches of the fishing industry appear to be in a healthy condition. The ciscoe fishery is fast developing into a lucrative business, and some measures of protection will be required to prevent present waste and future injury.

The service inaugurated in 1888, for the protection of the fish in Georgian Bay and Lake Huron by means of a small cruiser, and which has proved of such benefit to the fisheries of these waters, was continued during the present season under the command of Capt. E. Dunn, who by taking advantage of every favourable occasion, was enabled to do efficient work in the matter of enforcing the close seasons and preventing illegal fishing, as is evinced by the large seizures of fish, gill nets and boats made. The vessel employed for the past three seasons having been found unsuitable a new steamer for the service, is now being constructed at Owen Sound, and it is expected will be ready early in the month of August next.

MANITOBA AND THE NORTH-WEST TERRITORIES.

A slight increase is noticeable in the yield of the fisheries of the above Province and Territories, although the close season for whitefish was lengthened by twenty days. This speaks well for the abundance of the fish, and goes far to show
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that there need be no undue apprehension about the alleged depletion of these waters if reasonable protection is extended thereto.

One of the greatest drawbacks in the permanent improvement of the fisheries of Manitoba and the North-West Territories is the reckless destruction of whitefish by Indians during the breeding season; but it is to be hoped that Indian agents will be able, in the future, to prevail upon the several bands under their charge to desist from such wasteful practices and to kill only the number of fish necessarily required for their winter provision.

The service of protecting Fisheries is being extended to remote districts in the North-West Territories, and with an increasing population and the gradual settlement of the country, the fishing industry must necessarily develop. The great lakes to the west and north of Manitoba are teeming with whitefish, salmon, trout, sturgeon, and other valuable kinds of fish, for which a ready market can always be found in the neighbouring Republic. Salmon are abundant in the large rivers which empty into Hudson's Bay, and with the completion of the Hudson's Bay Railway, it is confidently expected that the trade in pickled and fresh fish could give employment to 10,000 persons in the great North-West alone.

BRITISH COLUMBIA.

The increase in the yield of the fisheries of this Province, although not quite so large as that of 1889, is still very satisfactory, amounting as it does to \$133,365.

The salmon fishery shows a slight falling off, solely attributable to the low prices which ruled in the market. The run of fish on the Fraser, although it began a month later than usual, was good, and in August the rush of salmon was so great that in some instances fish had to be thrown away. On the Skeena and Naas Rivers the run was exceedingly large: the canneries being kept well supplied. There were 34 canneries operated during the season of 1890, and the output amounted to nearly 20,000,000 one pound cans.

The yield of fur seals shows an increase of \$157,661 over that of 1889.

The other branches of the fishing industry are in a healthy condition.

A great diversity of opinion prevails between the resident officer of the Fisheries Department and the canners regarding the enforcement of necessary restrictions for the preservation of the salmon industry. The former contend, and with a good show of reason, that one of the principal causes of the rapid decline of the salmon fishery in the Atlantic Provinces, as well as in the United States, is due to over-fishing and the neglect of statutory enactments to check it; while the canners claim that the supply of fish being inexhaustible, no protection is necessary. It has been clearly demonstrated in previous reports how utterly untenable such a pretension was. It was shown how the catch on the Columbia River, which amounted to 629,000 cases in 1883, fell down to 328,000 in 1889, or more than one half, and in this connection it may not be amiss to quote the following extract from a recent report on the salmon and salmon rivers of Alaska, by Dr. Bean, of the United States' Commission of Fish and Fisheries:

"There seems to be a disposition on the part of buyers to underrate Alaskan products; its fishery resources have not been laid under contribution for market

supply until within a few years, during which we have seen, as the result of reckless and improvident fishing, the practical destruction of the salmon fisheries of the Sacramento and the reduction of the take on the Columbia to nearly one-third of what it was in the early history of the salmon canning industry on that river."

* * * "Whether these fisheries shall continue to furnish an opportunity for profitable enterprise and investment depends upon the policy to be inaugurated and maintained by the Government. *Under judicious regulation and restraint*, these fisheries may be made a continuing source of wealth to the inhabitants of the territory, and an important food resource to the nation; *without such regulation and restraint*, we shall have repeated in Alaskan rivers the story of the Sacramento and the Columbia. And the destruction in Alaska will be more rapid because of the small size of the rivers and the ease with which salmon can be prevented from ascending them. For a few years, there will be wanton waste of that marvelous abundance, which the fishermen—concerned only for immediate profit and utterly improvident for the future—declare to be inexhaustible. This season of prosperity will be followed by a rapid decline in the value and production of these fisheries, and a point will be eventually reached where the salmon canning industry will be no longer profitable."

These remarks from one of the highest authorities on fishing matters in the States are well worth the careful attention of persons engaged in the business.

With the view of affording additional protection to the salmon industry of British Columbia, an Order in Council was passed on the 14th March, 1890, limiting the size of nets to 5½ inches extension measure; making a weekly close time from Saturday night until Monday morning, which was subsequently changed to 6 a.m. Saturday to 6 p.m. Sunday; limiting the number of boats licensed to fish with drift nets on the Fraser River to 500, of which number 350 are to be allowed to canneries and 150 to outside fishermen, and regulating the fees to be paid on each license.

GENERAL RECAPITULATION

Of the Yield and Value of the Fisheries in the Dominion of Canada, for the Years
1889 and 1890.

| Kinds of Fish. | | 1889. | | 1890. | |
|--|------------|------------|---------------|------------|---------------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | | | |
| | | | \$ cts. | | \$ cts. |
| Cod | Cwt. | 904,560 | 3,618,240 00 | 857,734 | 3,433,580 00 |
| Herring, pickled | Brls. | 286,678 | 1,165,724 00 | 274,274 | 1,097,096 00 |
| do smoked | Boxes. | 2,685,170 | 666,342 25 | 1,354,161 | 340,290 25 |
| do frozen, fresh | Lbs. | 32,895,881 | 666,291 41 | 15,621,786 | 521,106 10 |
| Lobsters, preserved, in cans | " | 10,637,233 | 1,276,468 20 | 11,559,984 | 1,387,198 60 |
| do in shell, alive, &c. | Tons. | 5,247 | 208,020 00 | 6,748 | 261,146 00 |
| Salmon, pickled | Brls. | 6,704 | 84,740 00 | 5,140 | 70,652 00 |
| do fresh | Lbs. | 4,267,173 | 634,734 20 | 3,686,998 | 563,533 10 |
| do preserved, in cans | " | 20,141,152 | 2,417,508 16 | 19,910,304 | 2,389,666 44 |
| do smoked | " | 24,714 | 4,943 00 | 63,592 | 12,718 00 |
| Mackerel, preserved, in cans | " | 196,212 | 23,544 88 | 283,474 | 35,032 92 |
| do fresh | " | 542,500 | 32,550 00 | 770,090 | 46,254 00 |
| do pickled | Brls. | 62,237 | 874,302 00 | 96,246 | 1,443,690 00 |
| Haddock | Cwt. | 125,662 | 532,948 00 | 133,017 | 532,068 00 |
| Hake | " | 113,714 | 474,856 00 | 94,335 | 377,440 00 |
| Pollock | " | 77,196 | 308,784 00 | 68,387 | 273,548 00 |
| Trout | Lbs. | 5,125,493 | 512,549 30 | 5,829,466 | 584,166 60 |
| do pickled | " | 4,082 | 40,820 00 | 4,112 | 41,120 00 |
| Whitefish | Lbs. | 9,806,422 | 685,096 30 | 11,176,582 | 767,657 90 |
| Smelts | " | 5,011,058 | 298,951 78 | 4,735,517 | 283,443 57 |
| Sardines | Hogsheads. | 23,804 | 71,412 00 | " | 115,752 00 |
| Oysters | Brls. | 63,049 | 189,897 00 | 56,676 | 171,778 00 |
| Hake Sounds | Lbs. | 79,489 | 67,554 | 62,624 | 62,624 00 |
| Cod Tongues and Sounds | " | 307,247 | 19,253 50 | 321,200 | 16,060 00 |
| Alewives | Brls. | 37,470 | 166,441 00 | 42,766 | 192,452 00 |
| Shad, fresh | Lbs. | 170,330 | 10,219 80 | 108,103 | 6,486 18 |
| do pickled | Brls. | 4,868 | 48,145 00 | 6,728 | 66,524 00 |
| Eels do | " | 7,100 | 71,000 00 | 7,389 | 73,890 00 |
| do fresh | Lbs. | 1,378,473 | 82,708 38 | 1,425,051 | 85,503 06 |
| Halibut | " | 1,903,115 | 160,059 00 | 1,525,130 | 120,672 80 |
| Sturgeon | " | 1,773,685 | 102,127 72 | 2,047,170 | 116,991 90 |
| Maskinonge | " | 755,203 | 45,312 18 | 769,846 | 46,190 76 |
| Bas | " | 1,153,487 | 55,725 16 | 977,470 | 58,648 70 |
| Pickrel | " | 3,264,501 | 182,381 92 | 3,142,189 | 173,420 13 |
| Pike | " | 1,743,444 | 69,287 79 | 1,691,702 | 62,262 64 |
| Winninish | " | 100,000 | 6,000 00 | 100,000 | 6,000 00 |
| Tom Cod or Frost Fish | " | " | 26,580 00 | " | 34,244 88 |
| Flounders | " | 84,300 | 8,430 00 | 79,000 | 7,900 00 |
| Squid | Brls. | 11,649 | 46,596 00 | 13,138 | 52,452 00 |
| Oolachans | Lbs. | 165,200 | 13,390 00 | 114,600 | 7,780 00 |
| Clams | " | " | 19,950 00 | " | 16,180 00 |
| Fur Seal Skins in B.C. | No. | 33,570 | 335,700 00 | 44,751 | 492,261 00 |
| Hair do | " | 33,333 | 31,583 00 | 27,245 | 24,695 00 |
| Sea Otter Skins | " | 115 | 11,500 00 | 102 | 10,200 00 |
| Porpoise skins | " | 777 | 3,151 00 | 549 | 2,271 00 |
| Fish oils | Galls. | 984,183 | 417,815 00 | 727,020 | 315,034 00 |
| Coarse and Mixed Fish | Brls. | 27,275 | 147,852 48 | 40,278 | 187,942 05 |
| Mixed Fish, B.C. | " | " | 63,236 25 | " | 46,911 25 |
| Fish used as Bait | Brls. | 217,609 | 261,347 00 | 165,590 | 248,986 00 |
| Fish used as Manure | " | 60,563 | 30,281 00 | 122,484 | 61,242 00 |
| Guano | Tons. | 984 | 24,600 00 | 602 | 17,080 00 |
| Crabs | No. | " | " | 504,800 | 25,240 00 |
| Home Consumption not included in Returns | " | " | 336,370 87 | " | 327,809 50 |
| Total | | | 17,655,256 03 | | 17,714,902 33 |

RECAPITULATION.

| PROVINCES. | Value. | | Decrease. | Increase. |
|---|---------------|---------------|------------|------------|
| | 1889. | 1890. | | |
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| NOVA SCOTIA. | 6,346,722 00 | 6,636,444 64 | ..... | 289,722 64 |
| NEW BRUNSWICK.. | 3,067,089 04 | 2,699,055 02 | 367,984 02 | ..... |
| QUEBEC. | 1,876,194 19 | 1,615,119 76 | 261,074 43 | ..... |
| PRINCE EDWARD ISLAND | 886,430 84 | 1,041,109 20 | ..... | 154,678 36 |
| BRITISH COLUMBIA | 3,348,067 61 | 3,481,432 29 | ..... | 133,364 68 |
| ONTARIO | 1,963,122 80 | 2,009,637 37 | ..... | 46,514 57 |
| MANITOBA AND NORTH-WEST TERRITORIES. | 167,679 55 | 232,104 05 | ..... | 64,424 50 |
| Total..... | 17,635,256 03 | 17,714,902 33 | 629,658 45 | 688,704 75 |
| Increase over 1889 ..... | ..... | ..... | ..... | 59,646 30 |

COMPARATIVE STATEMENT

Of Production in each Branch of the Fisheries in the respective Provinces of the Dominion of Canada, in 1889 and 1890.

PROVINCE OF NOVA SCOTIA,

| Kinds of Fish. | 1889. | | 1890. | |
|--|-----------|--------------|------------|--------------|
| | Quantity. | Value. | Quantity. | Value. |
| | | \$ cts. | | \$ cts. |
| Salmon.....Brls. | 2,377 | 38,032 00 | 2,042 | 32,672 00 |
| do fresh.....Lbs. | 407,454 | 81,490 40 | 287,722 | 57,544 40 |
| do smoked.....Lbs. | 7,516 | 1,503 00 | 2,892 | 578 00 |
| do preserved.....Cans. | 9,784 | 1,466 80 | 8,032 | 1,205 40 |
| Mackerel.....Brls. | 43,038 | 586,317 00 | 70,509 | 1,057,635 00 |
| do preserved.....Cans. | 62,258 | 7,470 40 | 91,408 | 11,985 00 |
| do fresh.....No. | 542,500 | 32,550 00 | 770,090 | 46,254 00 |
| Herring.....Brls. | 127,605 | 529,432 00 | 126,054 | 504,216 00 |
| do smoked.....Boxes, | 35,835 | 8,958 50 | 17,160 | 4,290 00 |
| do fresh or cans.....Lbs. | 5,760 | 691 20 | Cans 6,336 | 633 60 |
| Alewives.....Brls. | 22,858 | 102,862 00 | 21,448 | 96,516 00 |
| do smoked.....No. | 150,000 | 1,200 00 | 130,000 | 1,040 00 |
| Cod, dried.....Cwt. | 587,558 | 2,350,232 00 | 607,904 | 2,491,616 00 |
| Cod Tongues and Sounds.....Brls. | 1,328 | 13,280 00 | 1,355 | 13,550 00 |
| Haddock.....Cwt. | 115,956 | 492,324 00 | 110,174 | 440,696 00 |
| do fresh.....Lbs. | | | 400,000 | 16,000 00 |
| Finnan Haddies.....Lbs. | 280,000 | 11,200 00 | 158,000 | 12,640 00 |
| Pollock.....Cwt. | 56,326 | 225,304 00 | 49,428 | 197,712 00 |
| Hake....." " | 79,690 | 318,760 00 | 59,335 | 237,440 00 |
| do Sounds.....Lbs. | 42,328 | 42,328 00 | 30,103 | 30,103 00 |
| Halibut....." " | 1,155,924 | 115,592 40 | 687,657 | 68,765 50 |
| Shad.....Brls. | 1,012 | 9,585 00 | 1,607 | 15,314 00 |
| Bass.....Lbs. | 26,800 | 1,608 40 | 11,575 | 695 00 |
| Trout....." " | 148,448 | 14,844 80 | 147,941 | 14,794 10 |
| Squid.....Brls. | 11,360 | 45,440 00 | 13,039 | 52,066 00 |
| Smelts.....Lbs. | 480,760 | 28,845 50 | 421,740 | 25,304 40 |
| Eels.....Brls. | 3,468 | 34,680 00 | 3,212 | 32,420 00 |
| Oysters....." " | 2,532 | 7,596 00 | 3,013 | 9,039 00 |
| Lobsters, preserved.....Cans. | 6,181,763 | 741,811 80 | 6,161,716 | 739,406 44 |
| do shipped fresh, alive, &c.....Tons. | 4,212 | 176,970 00 | 5,632 | 211,016 00 |
| Fish Oils.....Galls. | 368,290 | 147,315 80 | 269,418 | 107,766 80 |
| Guano.....Tons. | 661 | 16,525 00 | 267 | 8,715 00 |
| Fish used as Bait.....Brls. | 59,102 | 88,653 50 | 57,554 | 86,332 00 |
| do Manure....." " | 18,256 | 9,127 50 | 19,228 | 9,614 00 |
| Amount sold in Halifax market..... | | 40,500 00 | | |
| Home consumption of various counties, as per return..... | | 20,400 00 | | 59,600 00 |
| Clams..... | | 1,825 00 | | 1,280 00 |
| Total..... | | 6,346,722 00 | | 6,636,444 64 |
| Increase in 1890..... | | | | 289,722 64 |

COMPARATIVE STATEMENT

Of Productions in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK.

| Kinds of Fish. | | 1889. | | 1890. | |
|--|------------|------------|--------------|------------|--------------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | \$ cts. | | \$ cts. |
| Cod..... | Cwt. | 110,003 | 440,012 00 | 77,689 | 311,362 50 |
| Herring..... | Brls. | 81,241 | 324,964 00 | 74,401 | 297,604 00 |
| do smoked..... | Boxes | 2,614,900 | 653,725 00 | 1,314,136 | 330,284 00 |
| do frozen..... | No. | 22,247,860 | 133,487 16 | 13,700,000 | 82,200 00 |
| Mackerel..... | Brls. | 2,147 | 32,205 00 | 3,877 | 58,155 00 |
| do preserved in cans..... | Lbs. | 34,684 | 4,162 08 | 46,520 | 5,462 40 |
| Haddock..... | Cwt. | 7,507 | 30,028 00 | 13,615 | 54,460 00 |
| Pollock..... | " | 20,870 | 83,480 00 | 18,959 | 75,836 00 |
| Hake..... | " | 31,906 | 127,624 00 | 28,528 | 114,112 00 |
| Halibut..... | Lbs. | 47,560 | 4,756 00 | 103,250 | 10,325 00 |
| Salmon, pickled..... | Brls. | 30 | 480 00 | 60 | 960 00 |
| do fresh, in ice..... | Lbs. | 1,120,239 | 224,047 80 | 1,084,805 | 216,996 00 |
| do preserved, in cans..... | " | 9,240 | 1,386 00 | 6,280 | 942 00 |
| do smoked..... | " | 4,300 | 860 00 | 2,400 | 480 00 |
| Alewives..... | Brls. | 13,405 | 60,322 50 | 20,577 | 92,596 50 |
| Trout..... | Lbs. | 72,230 | 7,223 00 | 74,900 | 8,710 00 |
| Smelts..... | " | 3,960,938 | 237,656 28 | 3,786,952 | 227,537 12 |
| Shad..... | Brls. | 3,855 | 38,550 00 | 5,116 | 51,160 00 |
| Eels..... | " | 1,668 | 16,680 00 | 1,063 | 10,630 00 |
| Sardines..... | Hogsheads. | 18,145 | 54,435 00 | 18,820 | 94,050 00 |
| do in cans..... | Cases. | | | 400 | 1,800 00 |
| Bass..... | Lbs. | 87,806 | 5,268 36 | 81,600 | 4,896 00 |
| Pickarel..... | " | 157,900 | 9,474 00 | 145,200 | 8,772 00 |
| Perch..... | " | 24,700 | 741 00 | 26,200 | 786 00 |
| Oysters..... | Brls. | 17,760 | 53,280 00 | 16,710 | 50,130 00 |
| Lobsters, preserved..... | Cans. | 1,800,573 | 216,068 76 | 2,365,256 | 283,830 72 |
| do..... | Tons. | 1,035 | 31,050 00 | 1,014 | 50,130 00 |
| Cod Tongues and Sounds..... | Brls. | 40 | 400 00 | 61 | 610 00 |
| Hake Sounds..... | Lbs. | 37,161½ | 37,161 50 | 27,591 | 27,591 00 |
| Fish Oils..... | Galls. | 104,724 | 41,889 60 | 97,181 | 38,872 40 |
| Fish Guano..... | Tons. | 323 | 8,075 00 | 335 | 8,375 00 |
| Fish used as Manure..... | Brls. | 29,207 | 14,603 50 | 33,740 | 16,870 00 |
| do Bait..... | " | 45,185 | 67,777 50 | 47,159 | 71,338 50 |
| Squid..... | " | 289 | 1,156 00 | 99 | 396 00 |
| Frost Fish..... | Lbs. | 214,500 | 8,580 00 | 224,672 | 9,244 88 |
| Flounders..... | " | 84,300 | 8,430 00 | 79,000 | 7,900 00 |
| Clams..... | Brls. | 2,000 | 12,000 00 | | 9,650 00 |
| Fish used in District No. 1, not included above..... | | | 75,000 00 | | 64,000 00 |
| Total..... | | | 3,067,039 04 | | 2,699,055 02 |
| Decrease in 1890..... | | | | | 367,984 02 |

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND.

| Kinds of Fish. | | 1889. | | 1890. | |
|--------------------------------------|--------|-----------|------------|-----------|--------------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | | | |
| | | | \$ cts. | | \$ cts. |
| Cod | Cwt. | 21,196 | 84,784 00 | 16,432 | 65,728 00 |
| Herring | Brls. | 33,940 | 135,760 00 | 47,502 | 190,008 00 |
| Mackerel | " | 12,450 | 186,750 00 | 16,837 | 252,555 00 |
| do preserved | Cans. | 99,270 | 11,912 40 | 146,546 | 17,585 52 |
| Haddock | Cwt. | 900 | 3,600 00 | 770 | 3,080 00 |
| Hake | " | 7,118 | 28,472 00 | 6,472 | 25,888 00 |
| Salmon, fresh | Lbs. | 1,400 | 280 00 | 4,700 | 940 00 |
| Alewives | Brls. | 457 | 2,056 50 | 511 | 2,299 50 |
| Halibut | Lbs. | 3,730 | 373 00 | 5,422 | 542 20 |
| Bass | " | 1,600 | 96 00 | 200 | 12 00 |
| Trout | " | 56,820 | 5,682 00 | 63,100 | 6,310 00 |
| Smelts | " | 346,100 | 20,766 00 | 326,330 | 19,519 80 |
| Eels | Brls. | 1,814 | 18,140 00 | 3,012 | 30,120 00 |
| Oysters | " | 41,257 | 123,771 00 | 35,203 | 105,609 00 |
| Lobsters preserved in cans | Lbs. | 2,060,947 | 247,313 64 | 2,416,794 | 290,015 28 |
| Cod Sounds | " | 13,647 | 4,573 50 | 7 | 70 00 |
| Fish Oils | Galls. | 13,852 | 5,540 80 | 11,361 | 4,544 40 |
| Manure | Brls. | 13,100 | 6,550 00 | 8,450 | 4,225 00 |
| Bait | " | | | 11,385 | 17,077 50 |
| Shad | Brls. | | 10 00 | 5 | 50 00 |
| Hake Sounds | Lbs. | | | 9,860 | 4,930 00 |
| Total | | | 886,430 84 | | 1,041,109 20 |
| Increase in 1890 | | | | | 154,678 36 |

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF QUEBEC.

| Kinds of Fish. | | 1889. | | 1890. | |
|-------------------------------------|--------|-----------|--------------|-----------|--------------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | \$ cts. | | \$ cts. |
| Cod..... | Cwt. | 185,803 | 743,212 00 | 153,709 | 614,836 00 |
| Herring, pickled..... | Brls. | 36,356 | 145,424 00 | 19,892 | 79,568 00 |
| do smoked..... | Boxes | 1,435 | 358 75 | 865 | 216 25 |
| Mackerel..... | Brls. | 4,602 | 69,030 00 | 5,023 | 75,345 00 |
| Haddock..... | Cwt. | 1,749 | 6,996 00 | 1,298 | 5,192 00 |
| Halibut..... | Lbs. | 90,851 | 9,085 10 | 92,001 | 9,200 10 |
| Salmon, pickled..... | Brls. | 548 | 8,768 00 | 443 | 7,080 00 |
| do fresh..... | Lbs. | 551,080 | 110,216 00 | 570,756 | 114,151 20 |
| Shad..... | " | 170,330 | 10,219 80 | 108,103 | 6,486 18 |
| Fels..... | " | 1,236,591 | 74,195 46 | 1,299,816 | 77,988 96 |
| do pickled..... | Brls. | 150 | 1,500 00 | 72 | 720 00 |
| Sardines..... | " | 5,659 | 16,977 00 | 6,634 | 19,902 00 |
| Sturgeon..... | Lbs. | 458,325 | 27,499 50 | 330,370 | 19,822 20 |
| Trout..... | " | 489,700 | 48,970 00 | 415,975 | 41,597 50 |
| do..... | Brls. | 123 | 1,230 00 | 153 | 1,530 00 |
| Winninich..... | Lbs. | 100,000 | 6,000 00 | 100,000 | 6,000 00 |
| Whitefish..... | " | 193,333 | 15,466 64 | 178,668 | 14,293 44 |
| Maskinonge..... | " | 129,130 | 7,747 80 | 118,440 | 7,106 40 |
| Bass..... | " | 110,920 | 6,655 20 | 105,300 | 6,318 00 |
| Pickrel..... | " | 482,619 | 28,957 14 | 274,762 | 16,485 72 |
| Pike..... | " | 354,880 | 17,744 00 | 310,200 | 15,510 00 |
| Tom cod..... | Bush. | 30,000 | 18,000 00 | 50,000 | 25,000 00 |
| Cod tongues and sounds..... | Brls. | 100 | 1,000 00 | 183 | 1,830 00 |
| Lobsters, canned..... | Lbs. | 593,950 | 71,274 00 | 616,218 | 73,946 16 |
| Small and mixed fish..... | Brls. | 11,216 | 60,303 00 | 21,610 | 87,612 00 |
| Seal skins..... | No. | 26,333 | 26,333 00 | 17,045 | 17,045 00 |
| Porpoise skins..... | " | 777 | 3,151 00 | 549 | 2,271 00 |
| Fish oils..... | Galls. | 355,897 | 142,358 80 | 206,796 | 82,718 40 |
| Fish used as bait..... | Brls. | 113,322 | 104,916 00 | 49,492 | 74,238 00 |
| do manure..... | " | | | 61,066 | 30,533 00 |
| Smelts..... | Lbs. | 171,160 | 8,558 00 | 100,745 | 5,037 25 |
| Fish used as local consumption..... | Brls. | 21,012 | 84,048 00 | 18,885 | 75,540 00 |
| Total..... | | | 1,876,194 19 | | 1,615,119 76 |
| Decrease..... | | | | | 261,074 43 |

COMPARATIVE STATEMENT.

Of the Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF BRITISH COLUMBIA.

| Kinds of Fish. | 1889. | | 1890. | |
|--|------------|--------------|------------|--------------|
| | Quantity. | Value. | Quantity. | Value. |
| | | | | |
| | | \$ cts. | | \$ cts. |
| Salmon Brls. | 3,749 | 37,460 00 | 2,994 | 29,940 00 |
| do fresh Lbs. | 2,187,000 | 218,700 00 | 1,739,015 | 173,901 50 |
| do preserved, in cans. " | 20,122,128 | 2,414,655 36 | 19,895,992 | 2,387,519 04 |
| do smoked. " | 12,900 | 2,580 00 | 58,300 | 11,660 00 |
| Herring, fresh " | 190,000 | 9,500 00 | 329,500 | 16,475 00 |
| do smoked. " | 33,000 | 3,300 00 | 27,500 | 5,500 00 |
| Trout, fresh " | 14,025 | 1,402 50 | 52,900 | 5,290 00 |
| Sturgeon " | 318,600 | 15,930 00 | 396,000 | 19,800 00 |
| Skil, salted Brls. | 1,560 | 18,720 00 | 290 | 3,480 00 |
| Clams Sacks. | 3,500 | 6,125 00 | 3,000 | 5,250 00 |
| Halibut, fresh. Lbs. | 606,050 | 30,252 50 | 636,800 | 31,840 00 |
| Mussels Sacks. | | | 300 | 600 00 |
| Oysters " | 3,000 | 5,250 00 | 3,500 | 7,000 00 |
| Oolachans, pickled Brls. | 380 | 3,800 00 | 378 | 3,780 00 |
| do smoked. Lbs. | 6,700 | 1,340 00 | 1,000 | 200 00 |
| do fresh " | 82,500 | 8,250 00 | 38,000 | 3,800 00 |
| Fur Seal Skins. No. | 33,570 | 335,700 00 | 44,751 | 492,261 00 |
| Hair do " | 7,000 | 5,250 00 | 10,200 | 7,650 00 |
| Sea Otter Skins. " | 115 | 11,500 00 | 102 | 10,200 00 |
| Fish Oils Galls. | 141,420 | 70,710 00 | 162,264 | 81,132 00 |
| Crabs and Prawns. " | | 10,750 00 | | 30,240 00 |
| Smelts, fresh Lbs. | 52,100 | 3,126 00 | 100,750 | 6,045 00 |
| Assorted or Mixed Fish. " | 322,725 | 16,136 25 | 426,025 | 21,301 25 |
| Fish for home consumption, Chinese labourers " | | 100,000 00 | | 100,000 00 |
| Rock Cod. " | 39,250 | 1,962 50 | 200,750 | 10,037 50 |
| Tooshqua, fresh " | 268,350 | 13,417 50 | 309,000 | 15,450 00 |
| Fish products. " | | 2,250 00 | | 1,080 00 |
| Total | | 3,348,067 61 | | 3,481,432 29 |
| Increase. | | | | 133,364 68 |

COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF ONTARIO.

| Kinds of Fish. | 1889. | | 1890. | |
|----------------------------------|------------|--------------|-----------|--------------|
| | Quantity. | Value. | Quantity. | Value. |
| | | \$ cts. | | \$ cts. |
| Whitefish..... Brls. | 3,5184 | 35,185 00 | 4,067 | 40,670 00 |
| do..... Lbs. | 6,298,507 | 508,880 56 | 6,782,292 | 542,583 36 |
| Salmon trout..... Brls. | 3,959 | 39,590 00 | 3,959 | 39,590 00 |
| do..... Lbs. | 4,344,270 | 434,427 00 | 5,074,650 | 507,465 00 |
| Herring..... Brls. | 7,536 | 30,144 00 | 6,425 | 25,700 00 |
| do..... Lbs. | 10,452,261 | 522,613 05 | 8,435,950 | 421,797 50 |
| Maskinongé..... " | 626,073 | 37,564 38 | 651,406 | 39,084 36 |
| Bass..... " | 701,620 | 42,097 20 | 778,795 | 46,727 70 |
| Pickarel..... " | 2,174,344 | 130,460 64 | 2,216,520 | 132,991 20 |
| Pike..... " | 792,417 | 39,620 85 | 637,420 | 31,871 00 |
| Sturgeon..... " | 886,022 | 53,161 32 | 1,132,970 | 67,978 20 |
| Eels..... " | 141,882 | 8,512 92 | 125,235 | 7,514 10 |
| Coarse Fish..... " | 2,314,767 | 69,443 01 | 2,556,515 | 76,695 45 |
| Fish for Home Consumption..... " | 547,429 | 16,422 87 | 965,650 | 28,969 50 |
| Total..... | | 1,963,122 80 | | 2,009,637 37 |
| Increase in 1890..... | | | | 46,514 57 |

APPROXIMATIVE Yield and Value of the Fisheries for the Years 1889 and 1890.

MANITOBA AND NORTH-WEST TERRITORIES.

| Kinds of Fish. | 1889. | | 1890. | |
|---------------------------|-----------|------------|-----------|------------|
| | Quantity. | Value. | Quantity. | Value. |
| | | \$ cts. | | \$ cts. |
| Whitefish..... Lbs. | 2,517,282 | 125,884 10 | 3,402,222 | 170,111 10 |
| do..... Brls. | 468 | 4,680 00 | | |
| Pikereel (Doré)..... Lbs. | 449,638 | 13,490 14 | 505,707 | 15,171 21 |
| Pike (Jackfish)..... " | 596,147 | 11,922 94 | 744,082 | 14,881 64 |
| Sturgeon..... " | 110,738 | 5,536 90 | 187,830 | 9,391 50 |
| Catfish..... " | 24,025 | 480 50 | | |
| Tullibee..... " | 172,704 | 1,727 04 | 178,700 | 3,574 00 |
| Mixed fish..... " | 395,793 | 3,951 93 | 948,730 | 18,974 60 |
| Total..... | | 167,679 55 | | 232,104 05 |
| Increase in 1890..... | | | | 64,424 50 |

RECAPITULATION.

TABLE showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1890, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

| Years. | Nova Scotia. | New Brunswick. | Prince Edward Island. | Quebec. | Ontario. | British Columbia. | Manitoba and North-West Territories. | Total for Canada. |
|---------|--------------|----------------|-----------------------|------------|------------|-------------------|--------------------------------------|-------------------|
| 1870 | 4,019,425 | 1,131,433 | No data | 1,161,551 | 264,982 | No data | No data | 6,577,391 |
| 1871 | 5,101,080 | 1,185,033 | do | 1,083,612 | 193,524 | do | do | 7,573,199 |
| 1872 | 6,016,835 | 1,945,459 | do | 1,320,189 | 267,633 | do | do | 9,570,116 |
| 1873 | 6,577,067 | 2,265,662 | 207,595 | 1,391,564 | 293,091 | do | do | 10,754,397 |
| 1874 | 6,652,302 | 2,685,794 | 288,863 | 1,608,660 | 446,267 | do | do | 11,681,886 |
| 1875 | 5,573,851 | 2,427,654 | 298,927 | 1,596,759 | 453,194 | do | do | 10,360,386 |
| 1876 | 6,029,050 | 1,953,389 | 494,967 | 2,097,698 | 437,223 | 104,697 | do | 11,117,000 |
| 1877 | 5,527,858 | 2,133,237 | 763,036 | 2,560,147 | 438,223 | 583,433 | do | 12,005,934 |
| 1878 | 6,131,000 | 2,305,790 | 840,344 | 2,664,055 | 348,122 | 925,767 | do | 13,298,678 |
| 1879 | 5,752,937 | 2,554,722 | 1,402,301 | 2,820,895 | 367,133 | 631,766 | do | 13,593,254 |
| 1880 | 6,291,051 | 2,744,447 | 1,675,089 | 2,631,556 | 444,491 | 713,355 | do | 14,499,979 |
| 1881 | 6,214,782 | 2,560,904 | 1,955,290 | 2,731,962 | 504,903 | 1,454,321 | do | 15,817,162 |
| 1882 | 7,131,418 | 3,192,339 | 1,856,687 | 1,976,516 | 825,457 | 1,842,675 | do | 16,824,092 |
| 1883 | 7,689,374 | 3,185,674 | 1,272,468 | 2,138,997 | 1,027,083 | 1,644,646 | do | 17,766,404 |
| 1884 | 8,763,779 | 3,730,454 | 1,085,619 | 1,694,561 | 1,133,724 | 1,358,267 | do | 17,722,973 |
| 1885 | 8,293,922 | 4,005,431 | 1,293,430 | 1,719,460 | 1,342,692 | 1,078,038 | do | 18,670,288 |
| 1886 | 8,415,362 | 4,180,227 | 1,141,991 | 1,741,882 | 1,435,998 | 1,577,348 | 186,980 | 18,386,103 |
| 1887 | 8,379,782 | 3,559,507 | 1,037,426 | 1,773,567 | 1,531,860 | 1,974,867 | 129,084 | 17,418,510 |
| 1888 | 7,817,030 | 2,941,863 | 876,862 | 1,860,012 | 1,889,869 | 1,902,195 | 180,677 | 17,655,256 |
| 1889 | 6,346,722 | 3,067,039 | 886,430 | 1,876,194 | 1,963,123 | 3,348,067 | 167,679 | 17,714,902 |
| 1890 | 6,636,444 | 2,691,055 | 1,041,109 | 1,615,119 | 2,006,637 | 3,481,432 | 232,104 | 235,818,701 |
| Totals. | 139,351,651 | 56,865,113 | 18,417,434 | 40,093,926 | 17,573,175 | 22,620,874 | 806,524 | |

RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats; Value of all Fishing Material, &c.; Number of Fishermen in the Dominion of Canada for the Year 1890.

| PROVINCES. | FISHERMEN. | | VESSELS. | | BOATS. | | GILL NETS AND SEINES. | | Value of Trap and Pound Nets, Weirs, &c. | Value of Lobster Factor-ies and Traps. | Approximate Value of Freezers, Smokehouses and other Fixtures not Itemized. | Total Value.* |
|----------------------|------------|--------|----------|----------|-----------|---------|-----------------------|-----------|--|--|---|---------------|
| | Vessels. | Boats. | Number. | Tonnage. | Value. | Number. | Value. | Fathoms. | Value. | | | |
| Nova Scotia..... | 6,306 | 21,288 | 597 | 31,077 | 1,412,645 | 13,693 | 320,426 | 3,130,394 | 763,160 | 192,065 | 415,308 | 3,243,310 |
| New Brunswick.... | 614 | 10,525 | 151 | 2,804 | 76,490 | 5,391 | 167,451 | 376,868 | 251,245 | 168,580 | 315,419 | 1,184,745 |
| Prince Edward Island | 181 | 2,086 | 78 | 2,477 | 47,080 | 1,537 | 54,025 | 114,919 | 57,229 | 27,961 | 135,835 | 348,320 |
| Quebec..... | 364 | 11,003 | 67 | 2,097 | 61,100 | 6,182 | 180,625 | 247,867 | 157,743 | 55,876 | 66,200 | 521,644 |
| Ontario..... | 283 | 2,782 | 61 | 1,614 | 115,000 | 1,277 | 102,131 | 1,397,292 | 259,974 | 86,338 | ..... | 563,443 |
| British Columbia.... | 908 | 7,315 | 115 | 3,015 | 440,475 | 1,723 | 99,698 | 273,945 | 206,007 | 7,115 | 757,994 | 1,511,279 |
| | 8,726 | 54,999 | | | | | | | | | | |
| Totals..... | | 63,725 | 1,069 | 43,084 | 2,152,790 | 29,803 | 924,346 | 5,541,285 | 1,695,358 | 537,925 | 822,903 | 7,372,641 |

*NOTE.—For further details see pages 68, 102, 115, 159 and 191.

RECAPITULATION

Showing the Number of Vessels, Boats and Value of other Fishing Material, &c., also the Number of Men engaged Fishing during the Year 1889.*

| PROVINCES. | FISHERMEN. | | VESSELS AND TUGS. | | BOATS. | | NETS AND SHINES. | | Value of Trap and Pound Nets, Weirs, &c. | Value of Lobster Factor-ies and Traps, &c. | Approximate Value of Freezers and other Fix-tures not itemized. | Total Value of Capital Invested. |
|-----------------------|------------|--------|-------------------|----------|-----------|---------|------------------|-----------|--|--|---|----------------------------------|
| | Vessels. | Boats. | Number. | Tonnage. | Value. | Number. | Value. | Rathoms. | | | | |
| Nova Scotia..... | 6,814 | 20,520 | 644 | 32,479 | 1,427,165 | 14,129 | 329,503 | 3,131,080 | 81,670 | 176,176 | 129,187 | 2,849,777 |
| New Brunswick. | 637 | 9,890 | 156 | 2,739 | 89,468 | 5,132 | 231,042 | 396,531 | 129,350 | 91,135 | 454,120 | 1,227,300 |
| Prince Edward Island | 559 | 3,686 | 64 | 2,142 | 42,760 | 1,293 | 42,874 | 92,927 | 6,800 | 111,000 | 24,000 | 293,369 |
| Quebec..... | 598 | 10,985 | 97 | 3,786 | 106,025 | 5,834 | 169,438 | 248,823 | 53,838 | 46,695 | ..... | 532,307 |
| Ontario..... | 277 | 3,251 | 60 | 1,235 | 194,700 | 1,590 | 101,868 | 1,320,798 | 96,867 | ..... | ..... | 551,626 |
| British Columbia..... | 736 | 7,060 | 79 | 2,555 | 264,900 | 1,577 | 90,285 | 263,013 | 8,000 | ..... | 739,500 | 1,315,772 |
| | 9,621 | 55,382 | | | | | | | | | | |
| Totals ..... | ..... | 65,003 | 1,100 | 44,936 | 2,064,918 | 29,555 | 965,010 | 5,453,172 | 376,525 | 425,006 | 1,346,807 | 6,770,151 |

*NOTE—This table was not published in the Annual Report of 1889.

TABLE showing the Number of Vessels and Boats, their Value and that of other Fishing Material, also the Number of Fishermen engaged in Fishing during the Year 1883*.

| | Fishermen. | | | Vessels. | | | Boats. | | Gill Nets and Seines. | | Value of Trap and Pound Nets, &c., and other Fishing Material. | | Total Value. |
|--------------------------|------------|--------|---------|----------|-----------|---------|---------|-----------|-----------------------|-----------|--|----|--------------|
| | Vessels. | Boats. | Number. | Tonnage. | Value. | Number. | Value. | Fathoms. | Value. | \$ | \$ | \$ | |
| Nova Scotia | 7,740 | 22,413 | 751 | 33,421 | 1,437,135 | 12,116 | 342,965 | 1,081,965 | 512,385 | 198,480 | 2,490,965 | | |
| New Brunswick..... | 1,005 | 7,346 | 223 | 3,918 | 103,510 | 4,251 | 163,563 | 367,065 | 242,978 | 214,292 | 730,343 | | |
| Prince Edward Island.... | 294 | 3,562 | 42 | 1,578 | 44,650 | 1,108 | 43,781 | 80,373 | 34,933 | 2,950 | 126,314 | | |
| Quebec. | 760 | 11,174 | 137 | 7,969 | 318,750 | 6,500 | 162,074 | 203,510 | 168,177 | 84,570 | 733,571 | | |
| Ontario..... | 97 | 2,594 | 22 | 406 | 45,950 | 910 | 21,598 | 1,031,937 | 147,903 | 55,638 | 271,080 | | |
| British Columbia..... | 70 | 5,170 | 23 | 814 | 67,050 | 940 | 49,205 | 158,750 | 136,990 | 515,000 | 763,245 | | |
| | 9,966 | 52,259 | | | | | | | | | | | |
| Totals..... | | 62,225 | 1,198 | 48,106 | 2,023,045 | 25,825 | 783,186 | 2,723,600 | 1,243,366 | 1,070,930 | 5,120,527 | | |

* The contents of this table was not published in the report of that year (1883).

COMPARATIVE TABLE showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1890.

| Years. | Vessels. | | | Boats. | | Value of Nets and Seines. | Value of other Fishing Material. | Total of Capital Invested. |
|------------|----------|----------|-----------|--------|---------|---------------------------|----------------------------------|----------------------------|
| | No. | Tonnage. | Value. | No. | Value. | | | |
| | | | \$ | | \$ | \$ | \$ | \$ |
| 1879..... | 1,183 | 43,873 | 1,714,917 | 25,616 | 854,289 | 988,698 | 456,617 | 4,014,521 |
| 1880..... | 1,181 | 45,323 | 1,814,688 | 25,266 | 716,352 | 985,978 | 419,564 | 3,936,582 |
| 1881..... | 1,120 | 48,389 | 1,765,870 | 26,108 | 696,710 | 970,617 | 679,852 | 4,113,049 |
| 1882..... | 1,140 | 42,845 | 1,749,717 | 26,477 | 833,137 | 1,351,193 | 823,938 | 4,757,985 |
| 1883.... | 1,198 | 48,106 | 2,023,045 | 25,825 | 783,186 | 1,243,366 | 1,070,930 | 5,120,527 |
| 1884..... | 1,182 | 42,747 | 1,866,711 | 24,287 | 741,727 | 1,191,579 | 1,224,646 | 5,014,663 |
| 1885..... | 1,177 | 48,728 | 2,021,633 | 28,472 | 852,257 | 1,219,284 | 2,604,285 | 6,697,459 |
| 1886. | 1,113 | 44,605 | 1,980,411 | 28,137 | 850,545 | 1,263,152 | 2,720,187 | 6,814,295 |
| 1887..... | 1,168 | 44,485 | 1,989,840 | 28,092 | 875,316 | 1,499,328 | 2,384,356 | 6,748,840 |
| 1888..... | 1,137 | 43,247 | 2,017,558 | 27,384 | 859,953 | 1,594,992 | 2,390,502 | 6,863,005 |
| 1889..... | 1,100 | 44,936 | 2,064,918 | 29,555 | 965,010 | 1,591,085 | 2,149,138 | 6,770,151 |
| 1890..... | 1,069 | 43,084 | 2,152,790 | 29,803 | 924,346 | 1,695,358 | 2,600,147 | 7,372,641 |

COMPARATIVE TABLE showing the Number of Men Employed in the Fishing Industry in Vessels and Boats since the Year 1879 to 1890.

| Years. | Number of Men in Vessels. | Number of Men in Boats. | Total Number of Fishermen. |
|-----------|---------------------------------|-------------------------------|-------------------------------------|
| 1879..... | 8,818 | 52,577 | 61,395 |
| 1880..... | 8,757 | 51,900 | 60,657 |
| 1881..... | 8,359 | 50,679 | 59,036 |
| 1882..... | 8,498 | 52,785 | 61,283 |
| 1883..... | 9,966 | 52,259 | 62,225 |
| 1884..... | 9,968 | 51,854 | 61,822 |
| 1885..... | 9,539 | 53,282 | 62,821 |
| 1886..... | 8,927 | 53,073 | 62,000 |
| 1887..... | 8,911 | 55,247 | 64,158 |
| 1888..... | 9,574 | 53,109 | 62,683 |
| 1889..... | 9,621 | 55,382 | 65,003 |
| 1890..... | 8,726 | 55,000 | 63,726 |

THE FISHERY LAWS OF THE DOMINION.

TABLE of Close Seasons in force on 31st December, 1890.

First and last days of which are inclusive, except in dates for Salmon and Lobsters.

| Kinds of Fish. | Ontario. | Quebec. | Nova Scotia. | New Brunswick. | P. E. I. | Manitoba and N.-W. Ter. |
|--|---------------------|---------------------|--|---------------------|---------------------|-------------------------|
| Salmon (net fishing)..... | | Aug. 1 to May 1. | Aug. 15 to Mar. 1. | Aug. 15 to Mar. 1. | | |
| Salmon (angling) | | Aug. 15 to Feb. 1. | Aug. 15 to Feb. 1. | Aug. 15 to Feb. 1. | | |
| Speckled Trout (<i>Salvelinus Fontinalis</i>). | Sept. 15 to May 1. | Oct. 1 to Dec. 31. | Oct. 1 to Apr. 1. | Sept. 15 to May 1. | Oct. 1 to Dec. 1. | Oct. 1 to Jan. 1. |
| Salmon Trout..... | Oct. 15 to Nov. 30. | | | | | |
| Large Grey Trout, Lunge and Landlocked Salmon. | | Oct. 15 to Dec. 1. | Oct. 1 to Apr. 1. | Sept. 15 to May 1. | | |
| Ouananiche..... | | Sept. 15 to Dec. 1. | | | | |
| Pickeral (Doré)..... | Apr. 15 to May 15. | Apr. 15 to May 15. | | | | Apr. 15 to May 15. |
| Bass and Maskinongé | Apr. 15 to June 15. | Apr. 15 to June 15. | | | | |
| Sea Bass..... | | | Mar. 1 to Oct. 1. | Mar. 1 to Oct. 1. | | |
| Whitefish..... | Nov. 1 to Nov. 30. | Nov. 10 to Dec. 1. | | Oct. 1 to Dec. 31. | | Oct. 5 to Nov. 30. |
| Smelts..... | | Apr. 1 to July 1. | Apr. 1 to July 1. | Apr. 1 to July 1. | Apr. 1 to July 1. | |
| Lobsters..... | | July 15 to Dec. 31. | July 1 to Dec. 31. | July 1 to Dec. 31. | July 15 to Dec. 31. | |
| | | | On Atlantic coast, from Cape Canso to boundary line, U.S., July 15 to Dec. 31, in remaining waters of Nova Scotia and New Brunswick. | | | |
| Sturgeon | | | | Aug. 31 to May 1. | | May 1 to June 15. |
| Oysters..... | | June 1 to Sept. 15. | June 1 to Sept. 15. | June 1 to Sept. 15. | June 1 to Sept. 15. | |

Note.—In the Province of British Columbia, the following Regulations are in force :—

1. Net fishing allowed only under licenses.
2. Salmon nets to have meshes of at least 5½ inches extension measure.
3. Drift nets confined to tidal waters. No nets to bar more than one-third of any river. Fishing to be discontinued from 6 a.m. Saturday to 6 p.m. Sunday.
4. The Minister of Marine and Fisheries to determine number of boats, seines, or pots to be used on each stream.
5. The close season for trout is from the 15th October to 15th March.

SYNOPSIS OF FISHERY LAWS.

Net fishing of any kind is prohibited in public waters, except under lease or license.

The size of nets is regulated so as to prevent the killing of young fish. Nets cannot be set or seines used so as to bar channels or bays.

A general weekly close-time is provided in addition to special close season.

The use of explosive or poisonous substances for catching or killing fish is illegal.

Mill dams must be provided with efficient fish passes. Models or drawings will be furnished by the Department on application.

The above enactments and close-seasons are supplemented in special cases, under authority of the Fisheries Act, by a total prohibition of fishing for stated periods.

XXV

FISH BREEDING.

A full report on the result of fish-breeding operations during the season of 1890, is published at Part II of this Supplement. This also contains illustrations of the several kinds of nets used in salmon fishing in the Baie des Chaleurs and elsewhere, as well as a report of Mr. S. Wilmot's visit to Newfoundland, for the purpose of procuring data to enable this Department to put up a lobster hatchery in the Maritime Provinces.

CONCLUSION.

The usual statements relative to the Expenditure and Revenue of the Department, together with reports on Fishing Bounties and Fisheries Protection Service, will be found in the main report previously printed.

It is hardly necessary to repeat that the statistical statements of fisheries being brought down to the 31st December, in each year, it is impossible to have them compiled and in readiness for Printer in time to be included in first report.

I have the honour to be, Sir,

Your obedient servant,

JOHN TILTON,

Deputy Minister of Fisheries.

APPENDIX A.

NOVA SCOTIA.

District No. 1, comprising the four Counties of the Island of Cape Breton.—**Inspector A. C. Bertram.**

District No. 2, comprising the Counties of Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants.—**Inspector Robert Hockin.**

District No. 3, comprising the Counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.—**Inspector J. R. Kinney.**

DISTRICT No. 1.

ANNUAL REPORT OF THE FISHERIES OF CAPE BRETON ISLAND, COMPRISING THE COUNTIES OF CAPE BRETON, INVERNESS, RICHMOND AND VICTORIA, FOR THE YEAR 1890, BY INSPECTOR A. C. BERTRAM.

NORTH SYDNEY, C.B., 1st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my Seventh Annual Report on the fisheries of the coastal waters and streams of the Island of Cape Breton for the calendar year ending 31st December, 1890, with synopses of reports of Overseers for the four counties therein comprised.

The total value of the catch during the year just closed sums up to \$1,510,585.90, an increase of 127,990.58 over that of 1889, and coming within \$57,000 of the value of the best year since I first had the honour of reporting, in 1884. This is more fully explained by the following table:—

| Year. | Product Value. |
|-----------|----------------|
| 1884..... | \$1,421,787 |
| 1885..... | 1,501,498 |
| 1886..... | 1,561,655 |
| 1887..... | 1,554,288 |
| 1888..... | 1,481,988 |
| 1889..... | 1,382,580 |
| 1890..... | 1,510,575 |

It is with much pleasure that I note this appreciable increase, for it was manifest that the failures experienced in 1888 and 1889 had greatly discouraged those
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engaged in the fishing industry. The following tabulated statement gives the values by counties for the year 1889 and 1890. Only the County of Richmond shows an increase of \$189,385.56, while the others show a decrease, the total of which is, however, only \$61,388.98, which reduces the increase for the Island to \$127,996.58.

| Counties. | Product. | Value. | Decrease. | Increase. |
|-------------------|--------------|--------------|-----------|------------|
| | 1889. | 1890. | | |
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Cape Breton | 195,294 00 | 190,051 26 | 5,242 44 | |
| Inverness | 378,326 54 | 377,339 12 | 987 42 | |
| Richmond | 566,346 80 | 755,732 36 | | 189,385 56 |
| Victoria | 242,612 30 | 187,453 18 | 55,159 12 | |
| | 1,382,579 34 | 1,510,575 92 | 61,388 98 | 189,385 56 |
| | | | | 61,388 98 |
| | | | | 127,996 58 |

The increased production in Richmond County is so great over that of Cape Breton, Inverness and Victoria, which have experienced an almost corresponding decrease, that it would appear at first sight as if the first named county was more favoured in those conditions which usually accompany a successful fishing season; such as a plentiful supply of bait, abundance of fish and favourable weather. But a closer study of the facts show that even Richmond's large yield does not prove that the season of 1890 was more prosperous than that of 1889. The value of 1889, if divided by the number of men engaged in the business, will be found slightly greater than the production of 1890 divided by the same number of men in that year. Applying the same rule to the other three counties, it will be found that the season's catch has not been such as to be considered favourable or satisfactory.

To more fully illustrate this, the following tabulated statement is prepared, giving a comparison of the yield per man in the four counties:—

| Counties. | Man. | | Increase. | Decrease. | Yield per Man. | | Increase. | Decrease. |
|-------------------|-------|-------|-----------|-----------|----------------|--------|-----------|-----------|
| | 1889. | 1890. | | | 1889. | 1890. | | |
| Cape Breton | 1,603 | 1,502 | 101 | | 121 20 | 126 54 | 5 34 | |
| Inverness | 2,637 | 2,191 | | 446 | 143 43 | 172 22 | 28 79 | 0 50 |
| Richmond | 2,675 | 3,052 | 375 | | 211 72 | 211 22 | | 26 89 |
| Victoria | 2,049 | 2,165 | | 116 | 113 52 | 86 63 | | |

Last year's operations were thus quite as unfavourable as in 1888 and 1889, and in seeking an explanation of this fact, I experience little difficulty. The old

* It must be borne in mind that this sum does not represent the incomes of the fishermen, as they invariably combine farming with their fishing ventures.

standing complaint of scarcity of bait was as potent as in the two preceding years. It being well known that bait suitable for different kinds of fish come in successive schools, and as these remain but a short time in one place, only those fishermen who are lucky enough to get a share of proper bait can hope to catch fish. It frequently happens that a good catch of bait is made one day, but for want of means to keep it fresh until it can be used, it proves worthless; and what might, with a little provident forethought, prove a profitable voyage, becomes a failure. I have repeatedly urged the advantages of a little outlay in building ice-houses and securing a stock of ice, where it can be had so easily and so cheaply as in the vicinity of all the fishing stations. I am yet in hopes that the fishermen of Cape Breton will follow the example of those of the western parts of the Province in putting up ice for this purpose, and thus securing themselves against certain loss for want of fresh bait at proper times.

The stormy weather which prevailed during the fall months also proved a serious drawback to the prosperity of the fishing industry. The storms were severe and frequent, and in many instances did serious damage to wharves, boats, vessels and other property. I attribute the decrease in the catch of the north-eastern section of the Island largely to this cause; all fishing in that district being done in boats, and these in many instances could not be launched for weeks in succession. The falling off in the number of men engaged fishing in the County of Inverness during the year 1890 may be accounted for by the fact that the successive failures of 1888 and 1889 discouraged many who used to engage in fishing, but looked elsewhere for employment, and this they found on the railway then under construction through the Island.

COD.

The returns show an increase of about 23,895 cwt., notwithstanding a great scarcity of bait in the majority of the districts. Never did a more stormy season prevail than in 1890. A succession of gales was felt during the months of September, October and November, from which fishermen on the north-eastern coast of the Island suffered greatly. This was unfortunate, as during the autumn, cod fish were found in large numbers on the numerous banks adjacent to the shores; and had it not been for this blustering weather, fishermen on that section of the coast would have done well.

There is no doubt but the supply of cod is inexhaustible, and if our fishermen would adopt the plan of keeping a stock of bait on hand, by means of ice, the returns would be more than double what they are now.

MACKEREL.

There is a decrease of 1,121 barrels of mackerel for the year 1890, as compared with the previous year. The shortage is, no doubt, due to a scarcity of these fish on our coast. Mackerel, like herring, are a very timid fish and are easily diverted from their natural course. Very few of the spring run entered the bays and harbours. The reason of this is not understood by the fishermen. It may be that climatic changes, or currents, had something to do with these fish keeping away from their usual haunts inshore.

The fact that they were plentiful on the coast last year shows conclusively that the supply is not exhausted.

HERRING.

Though the catch of herring in some localities was not abundant, yet the total result in this standard branch of the fishing industry exhibits an increase of 4,856 barrels over that of the previous year.

There are three distinct kinds of herrings frequenting the waters of Cape Breton Island :

1st. The spring run, so called, because the fish are caught in the early part of the season, during the months of April and May—a small and lean fish, only used for bait, some fresh—the bulk being salted down for lobster and mackerel bait.

2nd. The summer run, caught in the early part of June and July and sometimes in August. A large, fat herring, which, when well cured, none are richer in quality nor sweeter to the taste.

3rd. The fall run, caught in September. A large fish in size, but not nearly so fat as the summer or July herring ; but of fair quality.

These three kinds of fish being different, it will be seen that no uniform system of curing will answer, and that methods suitable to each kind, season and quality must be adopted to give the most satisfactory results.

Our spring herring have little commercial value. Some restrictive measures or regulations should, however, be adopted to prevent its wholesale destruction, as is sometimes the case when they strike in large quantities and are used for manuring purposes. The question of raising the standard of our summer herring is one of lasting importance to the country, and the attention and consideration given to this subject by your Department is in every way praiseworthy and must result in great advantage to an important fishing industry.

That our fish is greatly under-valued, is best known to those who have been fortunate enough to taste some thoroughly-cured Cape Breton summer herring ; and it is much to be apprehended that this low estimation is largely due to causes instanced by the Montreal Board of Trade—bad preparation and frauds practised on buyers.

I believe that were the fishermen of this coast to give better attention to the curing of their herring, and place them on the markets in thoroughly good order, after carefully culling and grading them, the result would be an increase in public appreciation of this article of food which would prove highly satisfactory and remunerative. These remarks apply with equal force to the September herring ; but as they are caught at a time of the year when they are not so likely to spoil, the same amount of care in curing is not expected.

The July run of herring are most delicate and sensitive to the influence of the sun and summer heat. These fish are caught in the hottest season, and when exposed to the sun for even a few minutes, any damage done them at this stage cannot by any possible attention be overcome. This does not apply to our fall or September herring, and I am of the opinion that the Scotch method of curing applied to these would be the best that could be pursued and calculated to bring about most satisfactory results. In the curing of these fish, the utmost pains should be taken to keep them from sun and rain. I have, time and again, pointed this out in former reports. Herring exposed to the sun or rain, for even a short time, cannot afterwards be well cured. All experienced fishermen will admit that even a slight shower is quite as injurious to these fish as a little sun. The latter only injures the surface, while the former affects the whole body.

This class of fish are said by fishermen to be the most timid of the finny tribes. This is proved by the fact that where they could be had in abundance thirty years ago they are hardly seen now. It is claimed that nets and lobster traps frighten them off shore. It is also contended by old and experienced fishermen that were nets and traps taken up in daytime herring would be found more plentiful in our bays and harbours.

SALMON.

The returns for 1890 show an increase of 24 barrels pickled and 17,442 pounds fresh in ice over the yield of 1889. This increase occurs mainly in Inverness County, where the best spawning grounds are located. No doubt, these fish, like other kinds,

are subject to periodical fluctuations, caused by the influence of wind, rain and currents, over which human agencies can exercise no control; but one thing is noticeable—that while, during the months of June, July and up to the middle of August, salmon may be scarce off the coast, they never fail to put an appearance during the autumn season in search of spawning grounds in our fresh-water streams. This fall, the various rivers frequented by them were unusually well visited, which is a good indication of the supply being well kept up.

HALIBUT.

There is a falling off this year in the catch of halibut, amounting to 19,266 pounds. It appears that year by year, these fish are becoming scarcer in our coastal waters. Their disappearance is attributed to the use of trawls.

ALEWIVES.

There is an increase of 491 barrels over that of last year. These fish are mainly taken by residents on inland streams. They appear in the spring season, when there is a scarcity of other fish, and therefore form a staple article of food for home consumption. They are also used by native fishermen for bait.

HADDOCK.

There is an increase of 3,576 cwt. over that of the previous season. This increase occurs in the County of Richmond, where the fish were unusually plentiful during the months of June and July.

SQUID.

The decrease of 2,981 barrels in the yield of squid, a fish exclusively used for bait, accounts to a great extent for the falling off in the cod fishery in the districts where no squid were taken. These fish were undoubtedly prevented from visiting our coast by the high winds which prevailed most of the season; *their absence being most noticeable on the most exposed parts of the coast.*

LOBSTERS.

The marked increase of 217,344 cans of lobsters over the pack of last season is the most noticeable feature of the year's fishery. This increase is due to three causes; the large number of these crustaceans found on our coast during the season, the extension of ten days' fishing granted by the Department, and an increase in the number of lobster factories in operation. The increase in prices was of great advantage to large dealers more than to the fishermen, as prices advanced at the close of the season. There is a prevailing impression that this fishery is overdone to an extent which threatens its extinction; but so far as this district is concerned, and from past seasons' experience, the increased quantity taken points to an opposite conclusion. The fact that competition is increasing, consequent on an advance in prices, and that cash is paid by nearly all canners on delivery, tend to lure fishermen from other branches of fishery to that of the lobster. Having dealt with this subject in previous reports, I do not deem it necessary to discuss it here at greater length.

CONCLUSION.

Until quite recently, indeed until the increased demand for coal at Montreal and other points along the St. Lawrence induced the employment of steamers to freight coal, the fish products of Cape Breton Island were marketed at Halifax. The facilities now offered by these steamships has induced the preparation and shipping of a large

proportion of the catch of herring and codfish, hard dried and green, to the St. Lawrence markets. It is, however, with deep regret that I learn that through carelessness in preparing their herring, our fishermen greatly depreciated its value and almost lost the benefit of the unlimited market of the Provinces of Quebec and Ontario. It is to be hoped that the dissemination of the views of experts and of the report of the Commission of 1889 will bring about an improvement.

There can be no doubt but if compulsory inspection were vigorously enforced, a marked improvement in this regard would follow. None of our dealers have yet undertaken the putting up of shredded or boneless fish, in which a most successful business could be done, the demand being constantly growing, as is seen by the large quantities put up in Gloucester, Cape Cod and other American stations. I observe that in the western part of this Province a good deal of attention is being given to this mode of curing, and it has been found remunerative. If, instead of the practice now followed, of each fisherman curing his own catch of herring and cod, he could be prevailed upon to sell fresh and let the dealer cure, I believe we would have a better preservation of herring, and that the process of putting up boneless and shredded cod would be profitably prosecuted to the advantage of both fishermen and dealers.

I am looking forward with interest to the effect which the completion and operation of the Cape Breton Railway will have on our fishing industry. Heretofore, we have been debarred from competing in the inland and city markets for fresh fish, which I have long thought could be most successfully pursued by the fishermen of this Island were the necessary facilities, in the way of railway communication, available.

I have the honour to be, Sir,

Your obedient servant,

A. C. BERTRAM,

Inspector of Fisheries for District No. 1.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS FOR THE ISLAND OF CAPE BRETON.

CAPE BRETON COUNTY.

Overseer Francis Quinan, of Sydney, reports the total catch below the average of previous years. Salmon and herring gave better returns, but all other kinds of fish show a decrease. Mackerel were scarce during the whole of the season. Codfish, although reported plentiful on several dates, makes but a poor showing in the total catch. Two reasons are assigned for this, viz., stormy weather and scarcity of bait. The shore fishermen of this district are by no means "masters of the winds and waves," but the overseer thinks they could provide against the frequent occurrence of want of bait. There was a falling off in the catch of alewives, owing to the ice remaining on the coast until late in the season, and to prevailing easterly winds. The yield of minor kinds of fish is under the average; parties being employed at other work which paid better. With regard to the lobster fishery, the catch, although smaller than that of last year, was fair. The fishermen had to contend against a succession of storms, which destroyed 30 per cent. of the traps. There are three factories in this district, and the lobsters taken were good, both in size and in quality. The law was well observed, the managers of factories showing a desire to comply with the regulations. Packing commenced on the 17th May.

Overseer Alex. McDonald, of East Bay, reports a decrease in the catch of mackerel. These fish were scarce during the spring season, and the fall mackerel fishery was a complete failure. This was a great disappointment, as well as a serious loss, to a large number of fishermen, who were prepared for this fishery to a greater extent

than usual, owing to the fair market prices realized. The herring fishery, also, was below the average. A poor summer run of these fish is the cause of the small catch.

The cod fishery shows better than any of the other branches, and fishermen who prosecuted this branch exclusively have done fairly well. There was a smaller number of fishermen engaged in the cod fishery than last year, which is to be regretted, in view of the failure of the other branches.

The lobster fishery, considering the unusual stormy weather of the season, was good. Lobsters were plentiful and of good quality, and in every respect compared more than favourably with previous years. The fishing industry of this district is not prosecuted so extensively as in former years. Farmers living on the rivers and bays seek employment on the railway or at the mines, where they receive good wages. The inland fisheries of Mira River and East Bay have thus been greatly abandoned. The rivers were well protected, and there was a large run of salmon during the month of October. A greater number were taken from the Mira River for the Sydney hatchery than during any previous year.

Overseer William Burke, of Mira Ferry, reports a slight increase in the catch of cod and salmon, but a noticeable decrease in that of mackerel and summer herring. The July or summer run of herring was a complete failure in Mira Bay, where hundreds of barrels have been taken in other seasons. The fishermen cannot assign any plausible reason for this scarcity of fish. The failure of this branch of fishing will be keenly felt by those who combine fishing with farming. The Scattari Island fishing was good, particularly for cod and lobsters. The local fishermen of Mira Bay complain that fishermen from western Nova Scotia and some eastern ports monopolize the Mira Bay fishing grounds with their vessels, and do much injury to nets, as well as ruining the boat fishing. They want the Government to protect these grounds from outsiders.

COUNTY OF INVERNESS.

Overseer D. F. McLean, of Port Hood, reports that the statistics contained in his returns show a considerable falling off in the yield of fisheries, with the exception of salmon, trout, smelts, oysters and lobsters. The principal cause of this decrease is attributed to a scarcity of bait during the greater part of the season. Squid, which is the chief article used for bait, could not be had on this coast at all. The impression gains ground that year after year all kinds of fish keep further off the coast, and that herring, mackerel, cod, haddock and hake spawn in deeper waters than previously, so far off that fishermen find it difficult to prosecute their calling with small boats. That seining has, to some extent, been the cause of this decline, cannot be successfully contradicted. The protection afforded salmon and other fish frequenting rivers for the purpose of spawning is already beginning to bear its fruit. An increase is quite noticeable in the several branches of the fisheries protected by close seasons. Salmon now enter fresh-water streams much later in the season than during the past five years. A large increase was noticed ascending the river to spawn, as compared with the previous two years. Oyster fishing was very fair, and a material increase is noticed in that branch of our fishing industry. There were five lobster factories in operation during the past season. Two persons obtained licenses to set trap nets in the vicinity of Port Hood, and the result was a failure—that is to say, as far as catching fish was concerned. John H. Murphy was one of the parties who obtained a license, and the result of his catch was as follows:—

| | |
|-------------------------------------|--------------|
| Mackerel, 9½ bbls., valued at | \$126 |
| Herring, 10 do do | 9 |
| Codfish 3 cwt. do | 7 |
| Squid, 13,800 lbs. do | 197 |
| Totals | <u>\$339</u> |

The other party holding a license was A. W. Morrison, and his returns show the following catch:—

| | |
|------------------------------------|--------------|
| Mackerel, 15 bbls., valued at..... | \$100 |
| Squid, 8,000 lbs. do | 100 |
| Total..... | <u>\$200</u> |

Overseer David Ross, of North-East Margaree, reports an increase of 700 barrels of mackerel over last year's catch. From the beginning of the season, until about the 1st of July, cod fishing was exceptionally good; but from the latter date until the close of the season, that branch of the fishery was almost a total failure. Notwithstanding the failure of the cod fishery during five months of the season, the total catch exceeds that of last year. Salmon net-fishing also shows an increase, but angling was not good. The close seasons were well observed, and the spawning grounds well supplied, judging from the large number of parent fish which ascended to the head waters of rivers during the autumn.

Overseer James Coady, of South-West Margaree, reports a decrease in the catch of codfish and haddock, chiefly due to scarcity of bait and blustering weather. The lobster statistics show a decrease, owing to only one factory being operated. The factories at Margaree Harbour and Coal Mines were closed down during the whole season. The factory operated, however, did better than before; lobsters being more abundant and larger. Mackerel shows an increase of 293 barrels, herring 238 barrels and alewives 400 barrels. Salmon net fishing about the same as in 1889. Fly fishing was not good, although fish appeared to be abundant. The weather kept stormy and wet, and this was probably the cause why fly-fishing was so poor. All other kinds of fish show an average yield. The fishery laws were well observed, although great vigilance was necessary to protect the rivers.

Overseer Peter McEachern, of Glendale, reports an average catch. Codfish were more abundant at the close of the season than during the summer months. Nova Scotia fishing vessels purchased all the fresh herring and alewives that could be caught for bait, giving good prices for it. The demand for this kind of bait during the past season was greater than before, owing to squid being scarce. The rivers were well stocked with salmon and trout.

VICTORIA COUNTY.

Overseer William Bingham, of Englishtown, reports the catch of summer herring in Great Bras d'Or and St. Ann's Bay as remarkably good. St. Ann's Harbour was not, however, visited by large schools, much to the disappointment and loss of the harbour fishermen. Cod fishing was poor throughout the whole year. From the beginning of the season until well on into autumn, fish was remarkably scarce on the several local banks. Later in the fall they were more plentiful, but one north-east gale succeeded another, and the boat fishermen could not venture out with safety. Bait being also scarce, this helped to add to the failure of this fishery. The fishermen attribute the scarcity of cod on the banks to trawling by vessels and to fish offal being thrown overboard; thus polluting the grounds, causing the fish to seek purer waters elsewhere, and injuring boat fishing. Mackerel were exceedingly scarce. The cause is attributed to purse seining, which breaks up the schools and frightens the fish off from bays and harbours. A considerable falling off is noticed in the catch of salmon, and this overseer recommends the planting of fry in Clyburn's Brook, Barachois and North River. These streams are well adapted for fish-breeding. North-east gales did much damage to lobster fishing; nevertheless, the returns show a good season's catch. The two weeks' extension greatly assisted fishermen and packers, and this boon was much appreciated by all. St. Ann's and Ingonish Bays are great resorts for vessels in search of bait. Squid, however, was

scarce, owing to prevailing rough weather. This proved a great drawback to fishing vessels as well as to shore fishermen. The Fishery Regulations were well observed, there being only two violations of the law—one for spearing and the other for having small lobsters in possession.

Overseer Duncan McDonald, of Aspy Bay, reports a marked decrease in the catch of codfish. This is attributed to trawling on the banks, particularly during the beginning of the fishing season. Trawlers kept the outside banks well fished, and it is considered that if this system is not prohibited, fishermen in this district will have to abandon boat fishing altogether.

In the mackerel catch there is also a conspicuous falling off. The fish did not strike inshore in large schools. They appeared to be more plentiful outside, and vessels, hand-liners and seiners did well, particularly the former. Boat fishermen, who fished with hand lines, did well, some taking as much as thirty barrels. Spring mackerel were of good quality, and very fair prices were realized. The decrease in the catch of mackerel was owing to a scarcity of the fish in the fall.

Herring exhibits an average catch, and fishermen think that lobster traps may have had something to do in frightening these fish from the shore into deep water. Lobster fishing may be said to have been good, although one or two factories failed to open this season. The factories which were operated, however, found lobsters plentiful and large; but stormy weather did much damage to traps, and caused the loss of many days' fishing. The catch of salmon shows a falling off, which is attributed to unfavourable weather. The Fishery Regulations were well observed, only one case of illegal fishing being reported.

Overseer Donald McQuarrie, of Middle River, reports that very little deep-sea fishing is carried on in his division. There was an increase in the catch of herring. Alewives show also a large increase in some portions of this division. These fish were found more abundant in certain places than during any season for the past thirty years. The catch of salmon in Bras d'Or Lakes shows an increase over that of last year. The Middle and Baddeck Rivers were frequented by a large number of salmon. There is no midsummer run of these fish into either of the above-named rivers, but during the months of October and November large numbers ascend to the headwaters to spawn. Trout do not frequent the rivers in as large quantities as formerly. This may be due to changes in the river, caused by heavy freshets. The pools are neither so numerous nor deep as formerly. The law has been well observed. *Guardian McKenzie* has put a stop to poaching by Indians.

Guardian McKenzie, of Middle River, reports that Indians are inclined to violate the law, and that they require to be closely watched. They go up the river with canoes and spears, and as they are skilled spearsmen, extensive poaching was carried on. The white people have entirely abandoned illegal fishing in Middle River, more from fear of being caught than from a desire to comply with the regulations. A great run of salmon is reported during the months of October and November. These rivers kept high during the whole season which accounts for the increase in salmon.

RICHMOND COUNTY.

Overseer D. Cameron, of St. Peters, reports a decrease in the catch of mackerel and herring, but adds that this decrease is more than counterbalanced by an increase in haddock and lobsters. The haddock fishery shows an increase of 1,200 quintals and lobsters 35,428 cans over the previous year's catch. The partial failure of the mackerel fishery is attributed to seining vessels, which broke up schools on their first appearance on the coast; the fish then became scattered and disappeared into deeper water. The fall schools were few and small. There was a noticeable absence of codfish, but haddock were abundant, and the fishermen did well. The fishery laws were well observed, but illegal practices at the factories can only be checked by an officer being located at each factory.

Overseer Francis Marneau, of Arichat, reports an increase in the catch of herring, mackerel, haddock and codfish; and had the weather not been so stormy

after the middle of September, the increase in the cod-fishery would have been greater. The market prices were good, and the fishermen of this district are in fairly comfortable circumstances for the winter. Referring to the lobster fishery, this officer says that, in the early history of the packing business, when the fishery was in the hands of large dealers, it was an easy matter to enforce the regulations and prevent packing during the close season. The business was then confined to factories where the local fishery officer had no difficulty in enforcing the law, as canning was carried on under this officer's eye. Now, however, it is very different; the average fisherman has become an expert in the canning business, and resorts to out-of-the-way places where he can engage in the illegal packing of lobsters during the close season. These men receive supplies from factory proprietors, to whom they agree to dispose of their stock. The violators, in many cases, have the sympathy, not only of lobster packers, but of the inhabitants of the district, and it often becomes difficult for an officer to carry out the law. Happily, violators have in most cases been convicted and fined, which has had a wholesome effect on those engaged in this illegal business.

DISTRICT No. 2.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 2 OF NOVA
SCOTIA, COMPRISING THE COUNTIES OF CUMBERLAND, COLCHES-
TER, PICTOU, ANTIGONISH, GUYSBOROUGH, HALIFAX AND HANTS,
FOR THE YEAR 1890, BY INSPECTOR ROBT. HOCKIN.

PICTOU, 31st December, 1890.

To the Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit a report of the fisheries during the year 1890, within District No. 2, Nova Scotia, as compiled from statistical returns of local overseers, together with synopses of the reports of these officers of the various fisheries within their district. Comparative tables, showing the increase and decrease of the fisheries in each county, as well as the increase and decrease of each kind of fish, are annexed.

The following is a statement of the value of fish caught within this district each year since 1876:—

| Year. | Value. |
|-----------|-------------|
| 1876..... | \$1,471,555 |
| 1877..... | 1,477,735 |
| 1878..... | 1,594,428 |
| 1879..... | 1,330,521 |
| 1880..... | 1,557,488 |
| 1881..... | 1,561,719 |
| 1882..... | 1,703,813 |
| 1883..... | 1,788,242 |
| 1884..... | 2,050,562 |
| 1885..... | 2,295,915 |
| 1886..... | 2,011,983 |
| 1887..... | 1,954,476 |
| 1888..... | 1,538,122 |
| 1889..... | 1,367,854 |
| 1890..... | 1,453,015 |

showing an average catch for the fifteen years of \$1,677,162.

The value of the catch for 1890 is therefore about 13 per cent. below an average, but about 6 per cent. over that of last year.

There is a noticeable increase in the value of deep sea fish, the catch of mackerel showing an increase of..... \$46,588

Herring, an increase of..... 8,689

The cod family an increase of..... 43,365

while the decrease has largely been in the value of anadromous fish; salmon showing a decrease of..... \$27,837

| | |
|------------------------------|-------|
| Alewives, a decrease of..... | 9,874 |
| Smelts do | 3,210 |
| Bass do | 1,352 |

COD.

The increase in the catch of these fish is partly due to a more vigorous prosecution of the fishery, caused by better prices, and the fish being more abundant.

MACKEREL.

There is a gratifying increase in the value of the fish, as shown by these returns. The fish taken were of excellent quality, and much better prices obtained than formerly.

HERRINGS.

The returns show a slight increase in the catch over last year of 2,000 barrels. The noticeable features are, that last year Guysboro' reported an increase of about 50 per cent. and Halifax a decrease of a like proportion; this year these figures are reversed.

In the valuable and exhaustive report of the delegates appointed to inquire into the herring fishing industry, there are two important points raised, that the inspection of fish, which it is recommended should be compulsory, and the inspection of barrels. I cannot find any desire among fish dealers for compulsory inspection. A large trade is carried on in lean fish, which, being devoid of fat, keep well in hot climates, and the fat July herring are not sold for the same trade. While under inspection, the lean fish would be branded inferior, while it is, for its particular trade, a No. 1 fish. It is suggested that were packers compelled to brand their own names upon the packages, that so far as the fish are concerned, this would meet the demands of the trade; but all agree in saying that there should be a rigid inspection of fish barrels, and that the regulation barrel should be of $\frac{3}{4}$ inch spruce or larch, free from sap, with sixteen hoops; hoops not to be narrower than $1\frac{1}{8}$ inches at the narrowest part. It is further suggested that if all persons were prohibited from branding or stencilling fish as Prime or No. 1, Crown Prime, &c., or any other classification than that they were herring put up by A. B., and if officially inspected herring were conspicuously marked, the public would soon appreciate an inspection, if properly done.

LOBSTERS.

Throughout this district, there has been a decline in the catch as per schedule rates of about 10 per cent. from that of 1889, which exceeded that of 1888 by about 17 per cent. The accepted theory is, that the lobster is a coast animal, receding into deeper waters during the winter, to return with a rising temperature; and that over-fishing in one locality will not materially affect any other locality. The returns, this year, seem to lend additional weight to this theory. Throughout those portions of the district where the law has been strictly observed as to season, and upon the whole fairly so as to size, the returns show that to the same number of traps there has been an increased yield—the Straits of Northumberland, for instance, showing an increase of $8\frac{1}{2}$ per cent. over last year, while upon the southern shore of Halifax the decline has been 10 per cent., and upon that part of Guysboro' most favourable for poaching, the decline has been 16 per cent., while other parts of the coast so exposed that illicit trapping could not be carried on, the fishery held its own. It would therefore seem that were the present law observed, it would preserve the fishery.

Of the various suggestions and schemes to bring about that result, the writer favours that of prohibiting canning lobsters except by license, that licensed cannerys be required to stamp their cans with a registered stamp; and that lobsters put up in cans not so stamped be liable to seizure by customs or fishery officers. Special

regulations would, however, be required, to permit the importation of lobsters canned in Newfoundland.

Experienced canners say that fresh fish caught during the autumn months are watery, and do not possess the flavour of summer fish. They also contain more of an alkali which blackens the can and then the fish. The placing of such goods upon the market is claimed to be pernicious and injurious to the whole business. It will be observed that if a licensed canner put up this grade of fish, it could only injure his special brand. Another important feature is, that three fish in the autumn do not equal in bulk for canning purposes two of them in the spring.

In order to enforce the law, in addition to the active service of the cruisers, which did much to check the illegal business this year, the employment of special guardians, under vigilant overseers, will be necessary upon the Atlantic coasts. The licensing of canning establishments would yield a revenue sufficient to pay for daily inspection by fishery officers—the only practicable way of controlling the size limit,—and even then there would be a danger that it might simply become an additional tax upon the canner. The present size law, with the present force, can only be valuable in so far as it is educational.

SHAD.

The shad fishery of this district is confined to the counties bordering upon the Bay of Fundy, viz., Hants, Cumberland and Colchester. Ninety-five per cent. of all the shad taken during the past fifteen years have been in the waters of the Basin of Mines, Cobequid Bay and Cumberland Basin; and of the remaining 5 per cent. it is probable that 3 per cent. have been taken in Shubenacadie River. These fish are caught in the river by means of nets set in eddies along the shore when the water is high, or set one-half or two-thirds across when the water is low. In the bay they are caught by means of weirs and drift nets—that is, nets allowed to drift up and down in the strong tides of the Bay of Fundy. The time of fishing in the rivers is the last week in May and first week in June, but not later than 15th June. In the bay shad were formerly taken from 20th June, but in later years there are scarcely any taken till the middle of July.

The history of this fishery has been one of rapid decline; the total catch for successive three years being:

| | |
|-----------------|--------|
| 1878-79-80..... | 14,755 |
| 1881-82-83..... | 13,037 |
| 1884-85-86..... | 6,192 |
| 1887-88-89..... | 17,777 |

The catch of 1890 shows a slight increase over the average of the three last years, being 750 as compared with 592 barrels.

The following table will show the decline in each year and the catch in each county:—

| Years. | Hants. | Cumberland. | Colchester. | Total Barrels. |
|-----------|--------|-------------|-------------|----------------|
| 1876..... | 528 | 1,078 | 1,980 | 3,586 |
| 1877..... | 491 | 1,025 | 1,935 | 2,451 |
| 1878..... | 705 | 1,051 | 3,083 | 4,929 |
| 1879..... | 2,247 | 1,030 | 5,458 | 8,735 |
| 1880..... | 2,016 | 683 | 3,392 | 6,091 |
| 1881..... | 2,004 | 730 | 4,362 | 7,096 |
| 1882..... | 1,630 | 647 | 1,000 | 3,277 |
| 1883..... | 440 | 730 | 1,500 | 2,670 |
| 1884..... | 503 | 868 | 916 | 2,387 |
| 1885..... | 570 | 187 | 1,693 | 2,450 |
| 1886..... | 695 | 172 | 538 | 1,405 |
| 1887..... | 277 | 134 | 385 | 796 |
| 1888..... | 170 | 106 | 171 | 447 |
| 1889..... | 222 | 112 | 201 | 534 |
| 1890..... | 228 | 160 | 362 | 750 |

To meet this decline, it is evident that legislation is necessary. Shad frequent the waters of the Bay of Fundy to feed upon what is called the shad-worm. The possibility suggests itself that this supply of food might become exhausted by large numbers of shad, and the locality require a period of years for the food to become abundant. This year, for instance, the fish appeared in abundance early in the season, but remained only a short time. The theory has been advanced that the shad taken in the bay are not the result of spawn deposited in our rivers, but in rivers further south, and that there is no necessity for legislation affecting the spawning season. While it may be possible that all the fish that come into the bay did not spawn in our rivers, still I see no reason for believing that they are not contributing nurseries of the fishery, and that some remedial legislation is necessary. Nearly all the shad taken in Shubenacadie River, for instance, are full of spawn, and the fish ascend the river for the purpose of depositing it. There is, therefore, an immense destruction of ova, and at the very lowest calculation, the catch this year, of 164 barrels, in this river alone, must have destroyed 50,000,000 of ova. Of course, the conflict is between the inhabitants along the river, who have been in the habit of taking shad, and those fishing in the bay. I know of no reason that would prevent all from participating in the bay fishery, except the inconvenience of residence. To adopt a law entirely prohibiting the catch of shad in the rivers would, of course, be felt severely by those who have been in the habit of catching the fish; and the enforcement of such a law would be expensive and difficult, because it would fall entirely upon the officers, and would not be supported by the residents along the river. The alternative would be to make a close season during May and June for three years, or to extend the present season, which begins at sunset on Friday evening and ends at sunrise on Monday morning. Of the several courses, I would prefer the latter, making the close season to begin at sunset Wednesday evening and ending at sunrise Monday morning.

SALMON.

The returns show a large decrease in the value of the catch of these fish, the total value being:

| | | |
|---------------|---------------|----------|
| For 1889..... | For 1889..... | \$85,113 |
| For 1890..... | For 1890..... | 57,276 |

I am satisfied that this decrease is more apparent than real. First, fully 5,000 barrels falling off is attributable to the withdrawal of vessels from the Labrador fishery, while the apparent decline of \$15,000 in the returns from Pictou County requires explanation. Last year, owing to the death of the overseer in the fall of the year, the duty of collecting statistics had to be placed in inexperienced hands, and the return of salmon showed an increase of 50 per cent. over that of 1888. This was questioned at the time by the Inspector, but he was assured the returns had been carefully compiled. However, from interviews had with fishermen from the locality, I am of opinion that this abnormal increase of 50 per cent. over 1888 cannot be accepted as established.

The returns this year were regularly made by the overseer appointed, giving the names of the persons catching the fish and the quantity caught by each. Upon the whole, there has been a considerable decline, notwithstanding the large expense involved in promoting this valuable fishery. Inquiry, however, makes one wonder that this decline is not greater. I made the remark in my last annual report that several things in nature pointed to the fact that the headwaters, brooks and streamlets of a river are the nurseries for this fish. First, we have the gravid fish ascending a river as far as it can find spawning grounds, and the young fish when spawned and passed the fry stage and acquired strength to swim, instinctively heading up stream, where it not only finds the food to sustain itself, but also where there will probably be fewer predacious fish which feed upon them. Further consultation confirms me in this opinion, which I look upon as important, because of the bearing it has upon legislation for the preservation of the fishery, as well as indicating how far artificial cultivation has assisted in maintaining it. Take for example, the salmon fishing in

the Straits of Northumberland, of twenty-seven important rivers, which at one time were the nursery of this fish. I only know of four that are unobstructed by mill dams, a short distance above tidal waters, and these unprovided with fish-ways. The unobstructed rivers are the East, West and Cariboo Rivers, in Pictou County, and the West River of Antigonish County.

In view of this, it is difficult to understand how the fishery has been kept up, if not by the deposit of fry in the rivers flowing into these waters.

Pursuant to instructions, I reported what fish-ways were necessary in this district. I have found, and so reported, that about ninety-five fish-ways are required; the total cost of which would be covered by one year's catch of salmon alone, apart from other considerations of the acknowledged effect anadromous fish have upon the coast fisheries.

With the opening of rivers, the next matter of importance is the protection of fish during the spawning season. Where permanent wardens have been replaced by special guardians, appointed from time to time, it has shown to have been a step in the right direction, and has an electrifying effect upon the officers.

FISH-WAYS.

Upon examination of the fish-ways in this district, I found that of those constructed fully 90 per cent. were not at the time of examination in such a condition as to allow fish to pass within spawning grounds, and that they were not fulfilling the purpose for which they were intended. These structures, as built, extend from 80 to 100 feet into the pond above a dam, and slope from the bottom of the dam to nearly the surface of the water. They, therefore, present a large area of surface, which requires to be water-tight; the ice, too, forming under them, has materially injured some; others have been torn by freshets; many were found choked by debris, or the openings were not adapted to the height of water in the dam. With those fish-ways that could be repaired, notice has been served upon the mill-owner to do so, and in most cases this has been done; there are some, however, that it will be cheaper to build anew than to go to the expense of repairing. A system of weekly returns from the fishery officer living nearest to the fishway has been adopted, and during the spawning season, the Inspector is kept informed as to the condition of each fish-way. Deciding that the great defect of fish-ways in use was from the fact of their being fed from the surface, and that it would be of great value if one could be obtained that was fed from beneath, I instituted a series of experiments last winter with this object in view, and succeeded in inventing a pass which is a simple solution of the difficulty. It may be shortly described as a hole in the bottom of the dam, with the velocity of discharge so reduced that a fish may contend against the current and swim into the pond above. It consists of a series of compartments, having approximately a level floor, with side walls, ends and transverse partitions (every 4 feet of its length), from the bottom of the dam to above the water line; these compartments, connected with one another, and with the pond above and the river below the dam, by submerged apertures approximately on the level and preferably in alignment for the passage of fish. The water in the several compartments will be lower, step by step, from inflow to outlet, and will flow out of the last aperture under a head of about 2 feet (it can be made less), and therefore with so little velocity that fish can swim into the first compartment and into the pond above.

Here, then, is a fish-way which is not of very great length, 28 or 32 feet, sufficient for any average dam. It is built from the bottom of the pond up, so that ice cannot form under it nor raise it, and from its structure with partitions every 4 feet it is, necessarily, strong and compact. Freshets can make no torrent through these passes and tear them out. The apertures being submerged, cannot be choked with debris, and they can be so far removed from the bottom as to obviate any danger from that source. What is perhaps most important is, that it adapts itself to the height of water in the dam; for so long as there is water in the dam, the fish-

way will be supplied. The importance of this will be recognized when it is remembered that a fish-way has no friend in the mill-owner, and that the maintenance of the public rights of free access to spawning grounds by fish depends upon the vigilance of fishery officers.

The velocity of discharge being so reduced, the loss of water does not materially affect the mill-owner.

Plate I. gives a side view of the fish-way as constructed, with aperture of discharge under the water in the river below the dam. Hereunder, the darkened shadows of the dam the light shining through the aperture is quite noticeable.

Having submitted models and descriptions to the Department, I was honoured with permission to prescribe this form for a fish-way. Four of them have been put in; the first in Cumminger dam, Melrose, Guysboro' County; one at Doyle's dam, Tidnish, Cumberland County, one in the Rhino dam, and one at the foot of Little Indian Lake, in Halifax County. Had the season not been so wet, others would have been constructed.

Plate II. shows the heights the water attained in the several compartments in the fish-way on Cumminger dam, and Plate III. in the fish-way on Doyle's dam. In the latter fish-way, the partitions were spaced to suit the upright support as of bridge. The aperture was oval shaped; 11 inches high and 9 inches wide. In the Cumminger dam it was 9 inches high, 7 inches wide and of the same shape. Of the fact that fish will go through them, I have the statement of Thomas McKim, Warden, Melrose, that he has seen them go through with a full head of water in the dam. I have myself seen them go through, but there was not at the time a full head in the dam. Residents in Tidnish say fish have been seen to go through, and indeed any person examining one, as constructed, must see that there cannot be a shadow of doubt as to its efficiency.

It has met the approval of Mr. Wilmot, Superintendent of Fish Culture, and of Col. Marshall McDonald, Fish Commissioner of the United States, at Washington. Arrangements are about completed for their construction in Massachusetts, and I have a patent for Canada and the United States.

During the year the following rivers have been cleared, so as to allow fish to have access to the headwaters, viz., Country Harbour River, Guysboro; St. Mary's River, below Two-Mile Lake; St. Mary's, East Branch, below Garden Lake.

The work of the Inspector for the year past has, besides the time devoted to overseeing the building of fish-ways and the preparing of reports upon subjects referred, involved correspondence covering 915 pages of letter book; travel by rail, 3,295 miles; travel by road, 1,458 miles.

I have the honour to be, Sir,

Your obedient servant,

ROBERT HOCKIN.

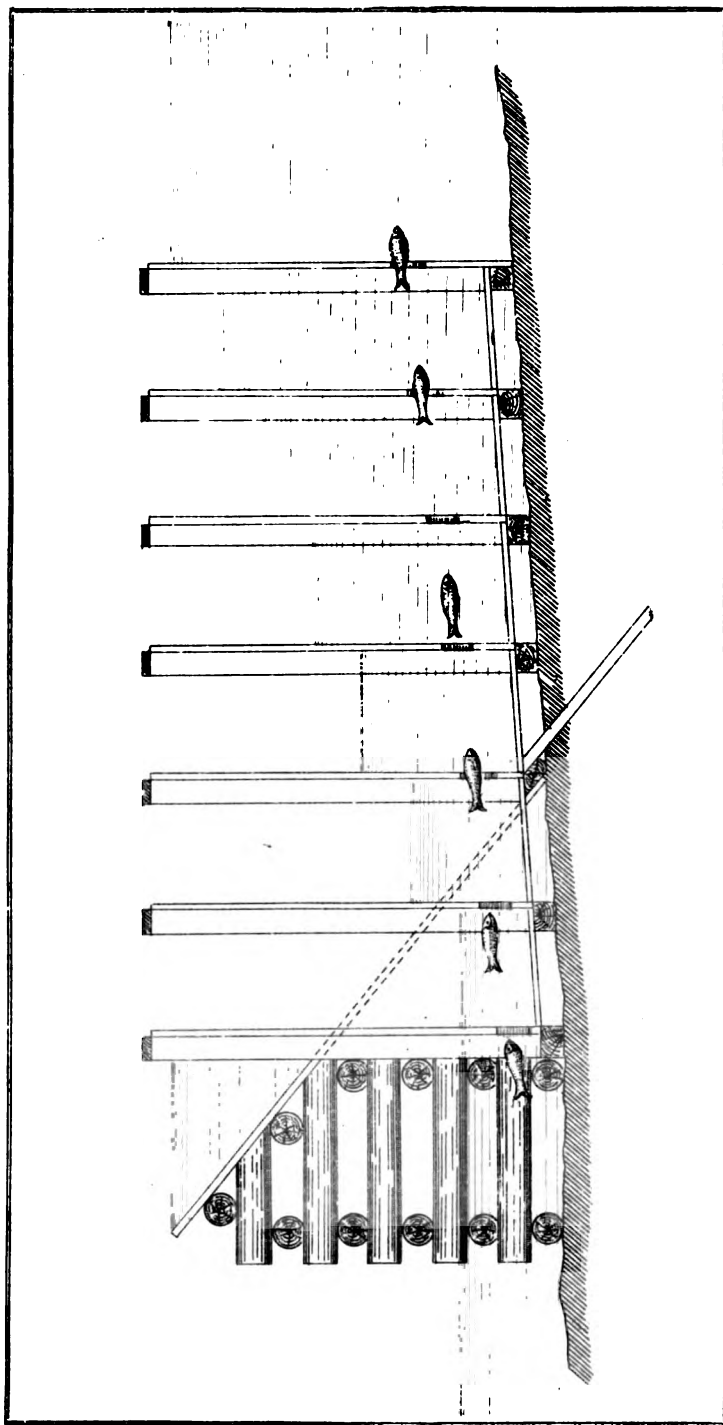
Inspector of Fisheries for District No. 2, Nova Scotia.

SYNOPSIS OF OVERSEERS REPORTS.

ANTIGONISH COUNTY.

Overseer John McDonald, Doctor's Brook, states that the fishing season was a discouraging one to the fishermen. Two new lobster factories were started in Arisaig Cove. Owing to the want of good fishermen, they did not succeed well and one of the boats was unfortunately wrecked in the storm of 1st December. Hake were abundant, and remained on the coast during the greatest part of the season; but fishermen

PLATE I.



SCALE $\frac{1}{8}$ INCH = 1 FOOT

PLATE II.

Side Section of Hockin Fishway as constructed in Cummings Dam, Guysboro Co., N. S. Lines in red showing actual height attained by water in the several compartments.

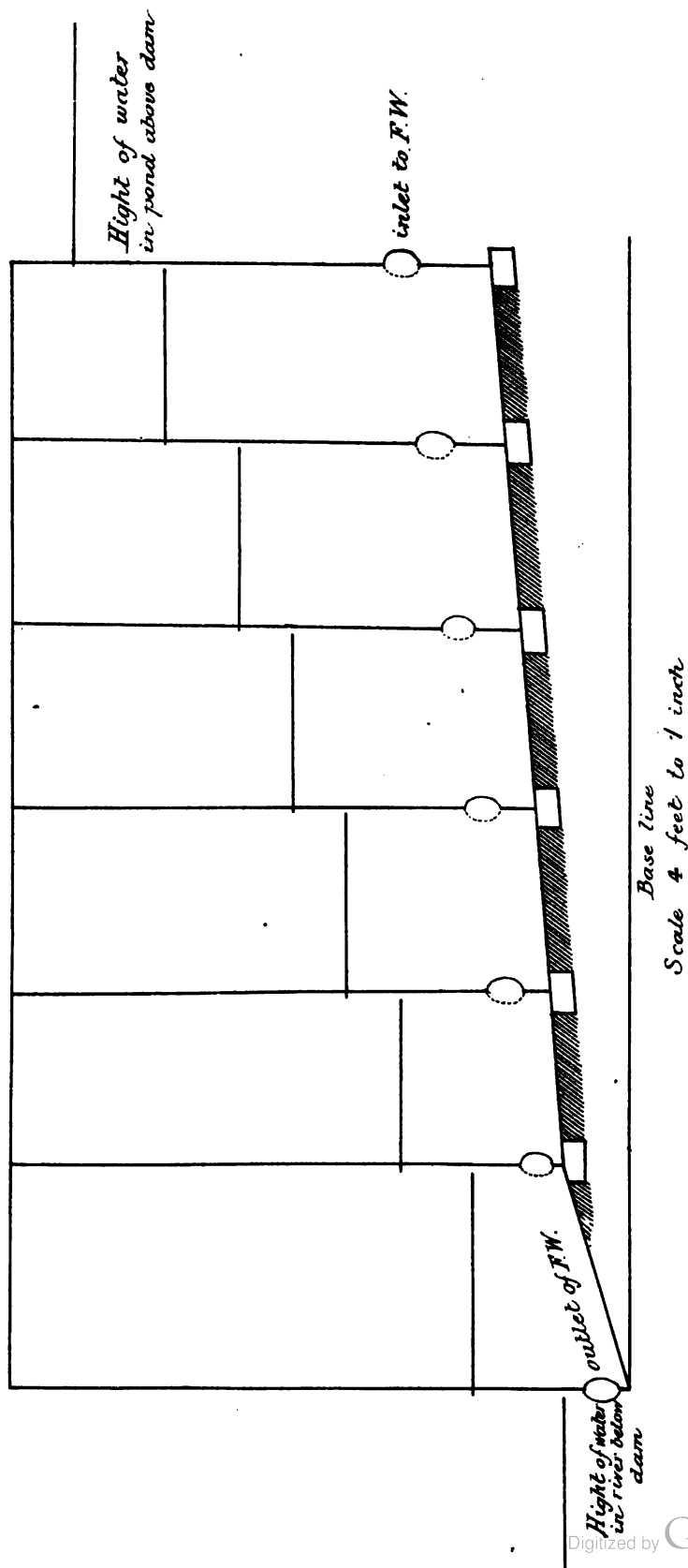
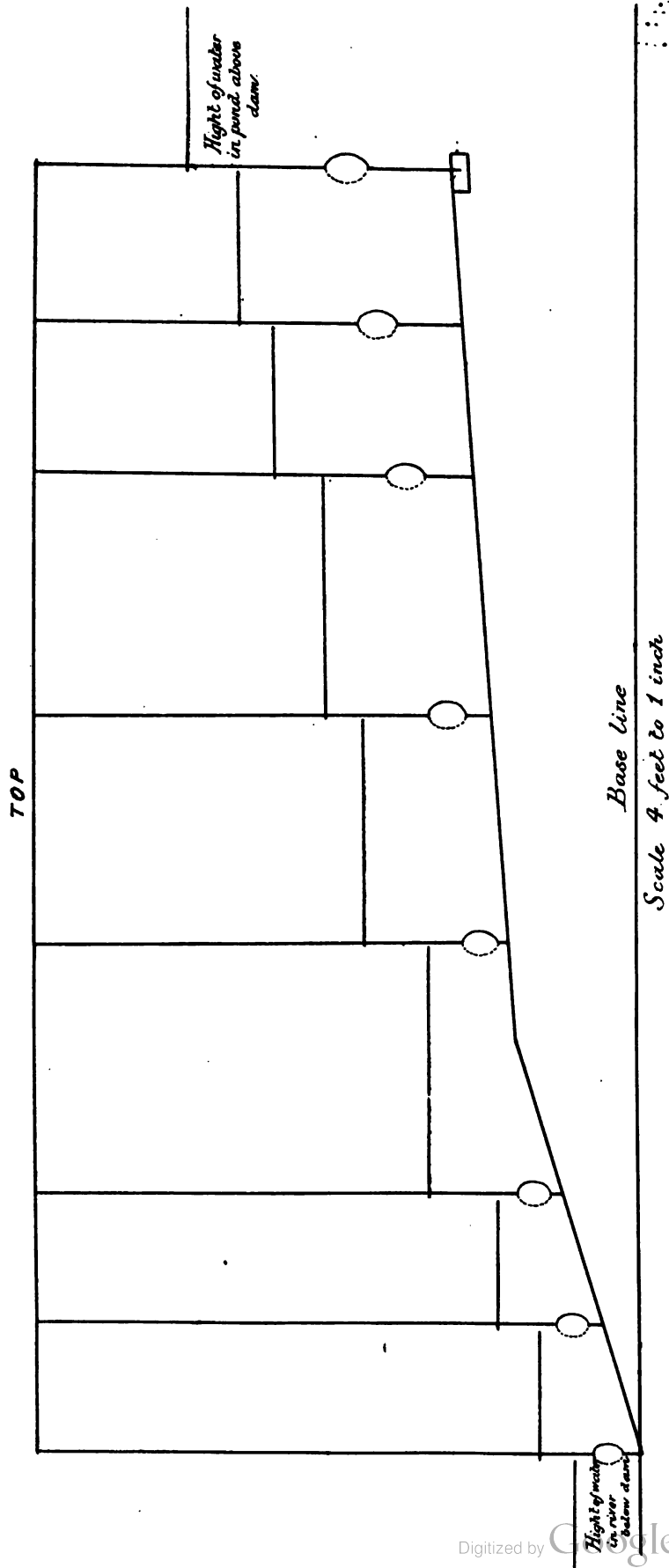


PLATE III.

Side section of Hockin Fishway constructed at Doyles dam Tidnish, County of Cumberland, Nova Scotia, built at the same time and made part of a Road-Bridge : compartments adapted to the upright supports of the bridge. Lines in red showing height attained by the water in the several compartments also showing incline given to fishway to adapt it to the grade.



2

could not secure bait enough for more than one night in the week. Herring were abundant in the spring, but not fished for except for bait. Summer herring did not appear at all. Having been informed that parties were racking oysters at Tracadie during the close season, this officer visited the locality, when he found an old scow and other oyster fishing implements and had them destroyed; being satisfied of their having been illegally used shortly before. He also destroyed a net found set right across James River. Many fishermen lost boats and valuable gear in the storm of 1st December, which they will not be able to replace, unless fish become more plentiful than for years past.

COLCHESTER COUNTY.

Overseer H. Gass, Tatamagouche, reports salmon scarce in the rivers this year, owing to the dredge boat working in the channel. Attempts at poaching were made by boys and irresponsible parties, but this was generally pretty well stopped. The fish-way at Balfour's mill is out of repairs, and the owner will not repair it.

Overseer R. J. Pollock, Lower Stewiacke, says that shad and salmon are on the increase in Stewiacke River; the catch being nearly \$300 in excess of that of 1889. The close season was well observed and carefully looked after. Poaching was done by some parties spearing nine or ten miles up the river. Three of them were fined, one of whom occupies a high position in the community, and his example to young men in this respect is not what should be expected. The returns do not show any fish caught above the Middle Stewiacke Bridge.

Overseer J. W. Davison, Upper Economy, reports a small increase in the shad catch of the previous season, but it is small when compared with former years. There is little to encourage fishermen to make preparations for next season. Few shad were seen until 8th July, when quite a school struck into Five Islands; one crew taking, 3,000 in one day and another 1,000. There was quite an excitement among the fishermen, but it lasted only a short time, as this was the only catch worth mentioning for the season. Shad were not plentiful throughout the bay, and disappeared quite suddenly in the latter part of July. This is held to be a bad indication for next season's catch. The great decrease in the catch cannot be attributed to over-fishing, because the apparatus used are small when compared with former years. No doubt, this has had something to do with it; but for a number of years, while the yield in the bay is not one-tenth of what it formerly was, the catch in the rivers during the spawning season has been on the increase. Neither is it reasonable to suppose that there will be a speedy return of these fish, when they are altogether unprotected during the time of breeding. There should be a close season, both in Nova Scotia and New Brunswick, during the spawning season. Were this done, there would soon be a return of this valuable fish. Shad sold readily at \$12 a barrel, shipped to Philadelphia, and re-sold at a profit, after paying duty and freight. This officer is of opinion that shad which go up our rivers are the parents of those caught in the bay. Doubtless, these shad stock some waters, and it seems natural they should return to their native haunts. Early in July, in the weirs set on the flats, there is quite a number of very small shad, some not more than 2 inches long, mixed with the large ones. These have evidently come from the rivers. Salmon are taken while fishing for shad. As that fishery closed much earlier this year, fewer salmon were taken. The close season for salmon has been pretty generally observed, and the overseer thinks that the number of those who would break the law is becoming smaller. There are now no fish-ladders in this division; formerly there were a number of the old style, which are all gone, and should be replaced.

CUMBERLAND COUNTY.

Overseer A. M. Wills, Pugnash says the smelt fishery in his division was almost a failure; not in quantity, but in size. The run was abundant, but the fish were too small for market. In many cases, nets raised contained from one to two tons of fish, and not one out of ten more than 4 inches in length. This shows that the regulation net of 1½ inch, extension measure, is valueless as a preventive against

the taking of young or small smelts. The main abuses to the fisheries were caused by mill refuse, old trees and sawdust. All the oysters taken in this division were caught in Pugwash River, and men who were raking there reported acres of grounds in the river so covered with sawdust they could not get their rakes down. There are three fish-ways in this division—one at Doyle's mills, and two on the Shinimicas. That at Somer's mills is in good order, but the one in McPherson's mills is choked. A fish-way is required in Comer's mill-dam, on the Pugwash River.

Overseer Wm. Murphy, Wallace, reports that canning lobsters began on the 5th May. Lobsters were then plentiful and of excellent quality. Some of the largest catches were made in May. During June, stormy weather and heavy winds caused the fish to leave the shore, and the result is a falling off of 8,200 cans from last year. Herring were abundant, and the catch about the same as last year. Smelts, a total failure; most of the fishermen not making enough to pay for their license. A great deal of dissatisfaction exists with regard to smelt licenses. Fishermen think it unjust that they should be compelled to pay license fees when wealthy lobster cannery pay none. About the same quantity of oysters were taken as last year. Alewives were abundant, more so, in fact, than for the last twenty years; but very few can be taken with mesh nets, and seines are prohibited. Salmon appeared in September, when the river was high, and they passed right up over Rhindress and Seaman's dams in October.

GUYSBOROUGH COUNTY.

Overseer Jas. A. Tory, Guysborough, says that in his district fishing as a whole was fair, although in some portions, it fell short of other seasons. Smelt and eel fishing have become a new enterprise. The squid fishery is prosecuted for the purpose of supplying bait to bankers, and the demand has exceeded everything heretofore known. The Newfoundland Bait Act has no doubt been instrumental in increasing this demand. The fishery is carried on by means of traps, and in no other way can the fishing be made profitable. There will, therefore, probably be increased applications for trap licenses. Ice, too, is as necessary to the bankers as bait, and this has been another profitable source of trade. Mackerel were abundant large and fat, averaging 140 to 160 to the barrel, and brought remunerative prices. More would have been taken, had fishermen been prepared with nets of a sufficiently large mesh. Large bodies of small mackerel were seen on the shores, which bids well for the future. The falling off in the yield of herring seems to be generally attributed to a failure of the autumn catch. This season, nearly all the alewives were taken at sea along with the mackerel. There has been a falling off in the lobster catch, which will continue in a greater ratio year by year till that fishery is totally destroyed, unless protective measures are adopted. The increase in codfish and haddock may be accounted for by the fact that a larger number of persons were engaged therein, and as the prices were good, this led to a more general and determined prosecution of the fishery. Salmon and trout were scarce during the first part of the season, owing to the waters being low; but as soon as the autumn rains came on, they ascended in considerable numbers. Rivers generally are clear of obstructions, excepting the mill-dams; most of these are at a considerable distance in the country, and are not so injurious as if nearer the coast. At the same time, proper and efficient fish-ways ought to be erected in every dam.

Overseer Allan McQuarrie, Sherbrooke, says there has been an increase in the smelt and mackerel catch. The latter, however, is far below that of former years. There was a decrease in salmon, trout, lobsters and herrings. Many fishermen are of opinion that the taking of fall herring, when full of spawn, and consequently the breaking up of schools when on their spawning grounds, is productive of most disastrous results. The returns show a falling off of nearly 50,000 cans of lobsters. Spring being cold and backward, the fish kept in deep water, making the season two or three weeks shorter than the average. There are almost insuperable difficulties in enforcing the regulations for the protection of lobsters. In the main, this officer believes that factories are not in sympathy with poachers; but some unscrupulous traders

encourage the poorer classes to violate the laws. If caught, they have nothing of any value to lose, and to imprison them is to enlist the sympathy of the community. Many fishermen favour a close season from the 10th September, to continue as long as the weather will permit in the fall. This would enable them to attend to their farms, which remain neglected since the beginning of this fishery. Their fathers made more than half their living from the farms. Such a season might conflict with the interest of packers, but the interest of the fisherman is as important, if not more so. Codfish were abundant in the spring, but bait was scarce; and both fish and bait were scarce in the fall. The weather was rough and blustering, so that the average fall catch was unusually small. The inland fisheries were well protected. A decline in the yield of salmon is due to the omission of vessels fishing in Labrador, which imported over 800 barrels of salmon in 1884. The fish-ways in this division are in good repair, and the new model placed in McKim's dam by Inspector R. Hockin is highly spoken of by the Wardens and others as being well adapted to the ingress and egress of fish and the saving of water. Warden John Smith reports having removed the obstructions at the head of Country Harbour rivers and that fish now have a clear passage from the tide to the grand lakes at the head. There are obstructions in Cooper's Brook, flowing into Wine Harbour, which should be removed. This could be done for about \$40. This stream is a favourite resort for smelts and trout. The beach at Indian Harbour has been kept well opened out this fall, at a moderate expense. There is a dam being built at the head of the tide on Gaspereaux Brook, where Mr. W. H. Himlow, the owner, proposes to excavate an artificial fish-pass at the east end, which will answer every purpose, as there is a considerable fall from the dam to tidal water. During the year, there were taken in St. Mary's River some small salmon, apparently of a new species, and supposed to be from the hatchery on the Antigonish branch, Lochaber.

HALIFAX COUNTY.

Overseer John Fitzgerald, Portuguese Cove, reports that the decrease in lobsters, as compared with last year, was caused by stormy weather in May. Mackerel and herring were abundant in summer, but fall fishing was a failure. Fishermen complain greatly on account of seine fishing amongst their nets, as destroying them. They also blame them for keeping mackerel from striking the shore.

Overseer Geo. Rowlings, Musquodoboit, reports that in the early part of the season codfish were abundant. Many more could have been taken, but the large majority of boat fishermen seem to prefer lobster fishing, and several of them are not prepared for anything else. Those who own vessels and fish about Prince Edward Island and in North Bay have all done well in the cod fishery, but they caught scarcely any herring or mackerel—indeed, not half enough for bait; and they had to use clams in large quantities. There were not so many alewives caught as last year. The decrease in the case of Lake Porter is explained by the fact that the outlet through the beach was filled up for a time, and in addition to the loss in alewives, it caused a loss in the catch of smelts, large quantities of which ascend every fall and are taken through the ice. Since the outlet has been re-opened and dipping stopped, there is every reason to believe that the fishery there will be as good as ever. Salmon fishing along shore did not yield an average catch. The reason is ascribed to so many mill dams with poor fish-ways, and so much dipping about them. This officer suggests that the natural passes at the end of Hill's dam, Musquodoboit River, and Anderson's, on the Petpeswick, be covered with strong lattice work, so as to prevent persons taking fish with dip nets. On Tangier River, which was one of the best for salmon, trout and alewives, there is a very good Rogers' ladder; but the outlet does not appear to be in the right place. Fish seem to go all about and under the dam, where they are dipped, and do not find the entrance to the fish-way. Lobster poaching was carried on to a large extent during the last two years, and it will take considerable money to stop it entirely. Traps are now set on trawl lines in such places as are hard to find; and the lobsters are boiled in large pots in out-of-the-way places, on islands. These places are changed from time to

time, and the canning is done at home. This overseer has come to the conclusion that it would be well to allow lobsters to be caught in October and if the fishermen found it was an injury to the fishery, they would more readily comply with the law. The sawdust law was not so well observed as the Department might have wished, but the largest portion was kept out of the water.

HANTS.

Overseer J. B. Colter, Milford, states that there were not so many fish caught in his division of the Shubenacadie River as last year, water being high when the different kinds of fish went up. Fish of all kinds were plenty, and a great run went into Grand Lake.

PICTOU.

Overseer R. Sutherland, River John, reports a fair fishing season; the lobster fishery being the principal one. This overseer asks that salmon fry be deposited in River John and Cariboo Rivers, where salmon abounded at one time previous to the building of dams without fish-ways. Oysters could also be cultivated there at a very small cost, as a trial was made a few years ago with good results.

Overseer A. O. Pritchard, of New Glasgow, reports a large run of salmon in East River, the most important stream of this district. The decrease in Middle and West Rivers he attributes to over-fishing for the purpose of procuring parent salmon for the hatchery. Illegal netting is almost entirely stopped; spearing is more difficult to cope with. Guardian Cummings was brutally assaulted in the performance of his duties, but one of the assailants was convicted and fined \$20. There is only one mill dam on East River, and as this is about to be removed, salmon will have uninterrupted access to the head waters.

DISTRICT No. 3.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 3 OF NOVA SCOTIA, COMPRISING THE COUNTIES OF KING'S, ANNAPOLIS, DIGBY, YARMOUTH, SHELBURNE, QUEEN'S AND LUNENBURG, FOR 1890, BY INSPECTOR J. R. KINNEY.

YARMOUTH, N.S., 31st December, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—Herewith I have the honour to transmit the fishery returns of this district for the year now ended.

These returns exhibit a decrease in the number of vessels and tonnage employed in the fisheries as compared with the year 1889:—

| | | | |
|---------------------------|-----|--------------|--------|
| No. of Vessels, 1889..... | 399 | Tonnage..... | 25,406 |
| do 1890..... | 362 | do | 22,203 |
| Decrease | 37 | | 3,203 |

There is an increase in value of production as compared with the previous year, of \$76,866.06.

SALMON,

as compared with the yield of 1889, shows a decrease of upwards of 27,000 lbs., or more than 25 per cent., which, taken with the falling off in 1889, exhibits a state of affairs calling for urgent and intelligent inquiry. The take of 1890 is but 37 per cent. of the catch of 1888, at which rate of decrease the extinction of this fish would seem to be but a question of time. The departmental expenditure for fish-ways has not led to such good results as were anticipated, and without entering into a discussion of the merits or demerits of the several patented structures called fish-passes or fish-ladders, I cannot too strongly or urgently call your attention to what

is to me intelligently demonstrated, i.e., that any, and all known, devices for facilitating the up-stream progress of anadromous fishes are useless, unless constantly and carefully guarded during the spawning season. Of all the fish-ways in this district, I know of but three or four that are properly cared for. In more than one instance, as I have before pointed out, the fish-ways have assisted in making the streams non-productive. For instance, take the case of the lower dam on Salmon River, County of Digby, where there is a "patent" fish-ladder, built entirely below the dam, without any attempt at an auxiliary or wing-dam below. Before the creation of fish-ways and ladders, this stream was a noted salmon stream, but now the salmon and alewives have been "patented" out of existence. Happily, the lower dam on the Clyde River was so far demolished, that fish have now an unobstructed passage; hence the utility or non-utility of the fish-way at that dam is no longer a live question, as the structure is perfectly dry at all times. Jordan River is wholly destitute of fish-passes, excepting a simple opening at the lower dam.

HERRINGS.

The catch of 1890 falls short of that of the preceding year by nearly 9,000 barrels. The reason for this I shall not attempt to give, further than to quote from the report of one of the Overseers, who says that this falling off is due to the fact that "there was a scarcity of these fish." There are, however, numerous complaints from the net fishermen that the lobster traps baited with stinking offal are driving herring and mackerel from our shores. As this real or imaginary grievance has become chronic in certain localities, it is unquestionably a subject for investigation. I have received instructions to report on this subject, and before so doing, I shall avail myself of all possible information; but, at the outset, I incline to the belief that all the lobster pots in Nova Scotia could not pollute one square mile of the Atlantic Ocean.

ALEWIVES.

Had it not been for this fish, the shore cod-fishery would unquestionably have been a dead failure; it having supplied the preponderance of bait during the spring months for the shore fishing. Inasmuch as the catch of alewives in 1889 and 1890 show a marked increase when compared with previous years, it might be asked why these fish do not increase, or decrease in the same ratio as salmon? To this it may be answered that alewives do not offer the same temptation to the poacher as salmon. The latter being of more immediate value, are watched at every dam and in every lake, and are brutally killed on their spawning grounds.

MACKEREL.

A year ago I thought that these fish were deserting our inshores, but appearances were misleading, as the past year's catch exceeds that of 1889 by so large a quantity that the excess closely approaches \$400,000 in value; thus saving this district from a deficit in the total yield. An outlay of several thousand dollars embarked in the spring mackerel fishery having become almost a total loss, fishermen dismayed by a staring deficit and placed in almost hopeless extremities, sought for a summer and autumn take by changing their grounds. In this, they were so far successful that several trap companies paid handsome dividends, and seiners were munificently repaid for their outlay.

LOBSTERS.

In canned lobsters there is a decrease in the output, not due to scarcity of fish but to the fact that some packers became frightened into a closer compliance with the regulations. The export of live lobsters proved a remunerative business and there are indications that this branch of trade will be prosecuted on a still larger scale next season. The lobster regulations were not well observed; the high prices obtained proving too strong a temptation to the average fisherman and packers. How to remedy this evil is a difficult problem to solve. I am inclined to suggest

that the limit in size be reduced to 9 inches; that all canneries be licensed, and heavy penalties imposed for violating the regulations, such penalties to culminate for repeated infractions in a cancellation of the license. It is a physical impossibility for the present staff of outside officers to watch even a small percentage of the lobster fishermen, but as the fish ultimately reach the packer, it is there that I would concentrate efforts for a reform.

CODFISH.

The total catch of cod shows a decrease of about 50,000 cwt., which is due to two causes, the first being a reduction in the fishing fleet of upwards of 3,000 tons, more than one-half of which occurs in the County of Shelburne, where to financial disarrangements is charged the deficit; and the other being that herring were not obtainable for bait until the appearance of alewives. I send you herewith a synopsis of the important points touched upon by the several overseers in their annual reports.

I have the honour to be, Sir,
Your obedient servant,
J. R. KINNEY.
Inspector of Fisheries, District No. 3, Nova Scotia.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS.

ANNAPOLIS

Overseer W. M. Bailey says that the catch of herring was almost nothing, but that large quantities were observed off shore. The net fishermen believe that the continuous lines of lobster traps constantly hauled up and let down drive away other fish. The herring fishermen, who are more numerous than lobster catchers, feel that these complaints should be looked into. The sawdust law is fairly observed in the western part of this county. Fish-ways are much needed in certain parts, especially on the Nictaux River.

DIGBY.

Overseer James A. Collins says that bad weather and scarcity of bait caused a falling off in the take of line fish. The fishermen complain of lobster traps, alleging their injurious effects on the herring fisheries. Prices were good and the fishery regulations were generally observed.

Overseer J. W. Cossaboom says that line fishermen attribute their scanty fare to excessive trawling in St. Mary's Bay.

KING'S.

Overseer James S. Miller reports that the fishermen still complain of the lobster traps, and that the year's business has been below the average, notwithstanding a decided improvement in the shad fishery. He has no complaints to make for violations of the regulations.

Overseer R. F. Reid states that a very general observance of the fishery regulations has been maintained. The catch of alewives largely exceeded that of the previous year, and these fish appeared to be in quantities as great, if not greater, than ever before since the settlement of the country. The fish ladders of this district did good service in allowing the parent fish free passage to the spawning grounds.

LUNenburg.

Overseer David Evans, of Chester, reports that salmon visited his district in larger numbers than for several years past, but that fewer men being engaged in this branch of the fisheries is the cause of the slight decrease in the annual catch. The

prices obtained have been more remunerative than for many years past. In short, the whole season proved exceptionally prosperous. Mr. Evans suggests that no salmon nets be allowed after 10th of June, as they interfere with other fishing pursuits.

Overseer C. E. Godard, of Bridgewater, says that the catch of fish in the La Have district was about the same as last season. Salmon now have free access to the upper reaches of La Have River through fish-passes.

Overseer W. M. Solomon, of Lunenburg, reports the number of vessels employed in his district as about the same as last year, the dozen or more new vessels added to the fleet being nearly offset by sales and losses. There were fewer vessels built than for several years past. The bank fishermen did not do so well as last year; shore fishermen did better, their catch being greater than for several years past. Mr. Solomon says that about twenty years ago, Lunenburg vessels were employed in the Labrador cod-fishing, but that the introduction of trawling nearly ruined them. Last year very few vessels went there. These, however, did better than usual. He predicts an increase in the tonnage of vessels to be employed in this branch of the fishing industry. Referring to the lobster fishery, Mr. Solomon states that a fishery overseer, paying only occasional visits to the canneries, cannot prevent the use of undersized fish, and that to effectually carry out the law, officers would have to be in each factory all the time.

QUEEN'S.

Overseer John Fitzgerald reports an increase in the catch of mackerel and lobsters, but says he cannot commend the law abiding qualities of lobster catchers. He urges special protection for salmon on the spawning grounds, where there is every facility for evil disposed persons to slaughter them, and suggests an increase in the number of close days for the further protection of these fish.

SHELBURNE.

Overseer W. J. McGill remarks that the shortage in the catch of codfish in his division is due to business failures in the eastern section of the county. The average take is also smaller, but this is compensated for by an increase in prices obtained. The fall fishing proved a failure, owing to stormy weather. The large inshore and harbour catch of mackerel is attributed to the abundance of young alewives, on which, he says, mackerel greedily feed. Mr. McGill considers that the protective regulations have tended to increase the alewife catch, and he looks forward to a continued abundance of this fish, great numbers of the young herring have been seen in Shelburne Harbour.

Overseer E. S. Goudey reports that some of the local fishing vessels were during the past year put in the coasting trade, owing to the poor trips of the preceding year; hence, the take of live fish is small, when compared with the vessels and men employed, but, on the whole, there is a slight gain. He reports alewives plentier in Barrington River than for thirty years past. He also reports an increase of these fish on Clyde River, where there is no need of a fish-way, the dam having been demolished. Extensive preparations are being made for carrying on the live lobster trade.

YARMOUTH.

Overseer John A. Hatfield reports increased activity in lobster fishing. This class of fishermen need constant watching; the remunerative prices obtained being a great temptation to catch undersized lobsters. The fish-ways are in good condition, the one at Carleton having been improved in such a manner as to work more effectually than before.

NOVA SCOTIA.—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in
and the Total Number of Men Employed, &c., in the

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | | |
|--|--|----------|--------|------|--------|--------|----------------------|----------|--------|------------------|-----------------------------|----------------------|-----------------------|--------------------|
| | Vessels. | | | | Boats. | | Nets. | | | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Salmon, in cans, lbs. | Mackerel, barrels. |
| <i>Cape Breton County.</i> | | | \$ | | | \$ | | | \$ | | | | | |
| From Albert Bridge to False Bay Beach..... | | | | | 23 | 276 | 25 | 2000 | 600 | | 3400 | | | 3 |
| From False Bay Beach to Long Beach..... | 1 | 9 | 250 | 4 | 37 | 852 | 58 | 4520 | 1356 | | 1500 | | | 37 |
| From Long Beach to Big and Little Glace Bay and Bridgeport..... | | | | | 21 | 486 | 42 | 1500 | 499 | | | | | |
| From Lingan to South Bar and South side Sydney River.... | 1 | 12 | 250 | 4 | 42 | 1032 | 84 | 3000 | 1050 | | 1048 | | | 5 |
| From Sydney to N. W. Arm, Point Edward, Coxheath and Sydney, Forks River.. | | | | | 29 | 360 | 40 | 1820 | 546 | | 600 | | | 3 |
| Gabarous..... | 1 | 19 | 370 | 5 | 43 | 3440 | 129 | 6780 | 3400 | | | | | 176 |
| Kennington Cove..... | | | | | 12 | 430 | 45 | 1560 | 780 | | | | | 48 |
| Louisburg..... | | | | | 40 | 2800 | 120 | 6000 | 3000 | | 900 | | | 160 |
| Big Lorraine..... | | | | | 40 | 2700 | 100 | 5060 | 2530 | 2 | | | | 120 |
| Little Lorraine..... | 1 | 20 | 400 | 5 | 18 | 1360 | 54 | 2820 | 1410 | | 400 | | | 90 |
| Baulin..... | | | | | 12 | 720 | 30 | 1900 | 850 | | 200 | | | 60 |
| Lewis Bay and Grand Mira..... | | | | | 20 | 200 | 30 | 500 | 250 | | 100 | 150 | | |
| East Bay and Big Pond..... | | | | | 17 | 170 | 28 | 1000 | 500 | | | | | |
| North side East Bay and Eskasoni..... | | | | | 15 | 300 | 30 | 750 | 210 | | | | | |
| From George's River to Lloyd's Cove..... | | | | | 71 | 1420 | 142 | 3550 | 1024 | | 1260 | | | 81 |
| North Sydney to N. W. Arm.. | 6 | 90 | 720 | 18 | 21 | 420 | 42 | 950 | 294 | | | | | 32 |
| Boisdale to Grand Narrows.... | | | | | 52 | 880 | 104 | 2600 | 728 | | 160 | | | |
| Main-a-Dieu..... | | | | | 50 | 3000 | 122 | 5800 | 2900 | 4 | | | 2000 | 180 |
| Mira Bay..... | 1 | 10 | 200 | 4 | 42 | 1680 | 90 | 6000 | 3000 | 8 | 2000 | | | 150 |
| Scatarie..... | | | | | 20 | 1600 | 60 | 3680 | 1840 | 4 | | | | 60 |
| Totals..... | 11 | 160 | 2190 | 40 | 625 | 23126 | 1375 | 61790 | 26767 | 18 | 11568 | 150 | 2000 | 1205 |

DISTRICT No. 1.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of Nova Scotia, for the Year 1890.

| KINDS OF FISH. | | | | | | | | | | | | FISH PRODUCTS. | | | VALUE. | | |
|-------------------|-----------------------------|--------------------|-----------|------------------------|---------------|---------------|----------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|-------------------|-----------------------------|---------|----|
| Herring, barrels. | Herrings, smoked, in boxes. | Alewives, barrels. | Cod, cwt. | Hake and Pollock, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish Guano, tons. | Fish used as bait, barrels. | | |
| 125 | 72 | 250 | 10 | 25 | 300 | 6 | 1000 | 2000 | 13 | 6 | 125 | 6 | 62 | 3,440 | 00 | \$ cts. | |
| 865 | 5 | 1190 | | 127 | 5500 | | 300 | 1500 | 50 | | 24384 | 595 | 51 | 298 | 15,661 | 58 | |
| 240 | 10 | 296 | | 20 | 1800 | | 1500 | 1800 | 25 | | | 148 | 4 | 74 | 3,223 | 20 | |
| 510 | | 90 | | 5 | 2000 | | 400 | 2500 | 25 | | 15343 | 45 | 2 | 22 | 5,286 | 76 | |
| 250 | 120 | 75 | 30 | | | 500 | | 2200 | 7000 | 33 | | | 15 | | 8 | 2,690 | 50 |
| 270 | | 8 | 1660 | | 215 | | | | | | 114320 | 900 | | 200 | 25,634 | 40 | |
| 84 | | | 180 | | 125 | | | | | | | 150 | | 80 | 2,456 | 00 | |
| 480 | | 16 | 2400 | | 400 | | | | | | 24000 | 1200 | | 260 | 19,522 | 00 | |
| 490 | | 10 | 2400 | | 500 | | | 50 | | | | 1200 | | 260 | 16,312 | 00 | |
| 230 | | | 960 | | 180 | | | | | | | 480 | | 150 | 7,327 | 00 | |
| 100 | | | 360 | | 100 | | | | | | | 180 | | 100 | 3,402 | 00 | |
| 100 | 20 | | | | | 7 | 100 | 500 | | | | | | | 250 | 00 | |
| 100 | 10 | 60 | | | | | 150 | 300 | 5 | | | 30 | | 6 | 789 | 00 | |
| 1100 | | 680 | | | | | 800 | | | 14 | 10 | | 127 | | 23 | 7,455 | 30 |
| 770 | 21 | 3620 | | 378 | 5460 | | 800 | 1350 | 34 | 10 | 35481 | 704 | | 249 | 26,623 | 32 | |
| 320 | 30 | 500 | | 15 | 1200 | | 150 | 1200 | 12 | | | 81 | | 22 | 4,347 | 40 | |
| 75 | | 465 | | | | | 1030 | 2600 | 8 | | | 82 | | 18 | 2,590 | 80 | |
| 410 | 6 | 1775 | | 225 | 4200 | | | | 6 | | 26500 | 1025 | | 250 | 17,176 | 00 | |
| 650 | 10 | 1600 | 10 | 240 | 6720 | | | 600 | | | | 950 | | 160 | 14,151 | 00 | |
| 200 | 8 | 2000 | 10 | 60 | 6600 | | | | | | 2400 | 1300 | | 110 | 11,713 | 00 | |
| 7269 | 120 | 301 | 20515 | 30 | 2615 | 34280 | 13 | 8480 | 21350 | 225 | 26 | 242428 | 9337 | 63 | 2352 | 190,051 | 26 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, in cans, lbs | Mackerel, barrels. | Mackerel, in cans, lbs. |
|-------------------------------|---|----------|--------|--------|-----|--------|----------------------|----------|------------------|-----------------------------|----------------------|--------------------|-------------------------|
| | Vessels. | | | Boats. | | | Nets. | | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. |  |  |  |  |  | Value. |
| <i>Inverness Co.</i> | | | \$ | | | \$ | | | \$ | | | | |
| Port Hood..... | 1 | 13 | 200 | 3 | 120 | 3600 | 360 | 20000 | 7000 | | 1500 | | 100 |
| Sea Side..... | | | | | 30 | 300 | 90 | 4000 | 1200 | | | | 40 |
| Little Judique..... | | | | | 40 | 500 | 120 | 5000 | 2000 | | | | 20 |
| Judique..... | | | | | 40 | 400 | 100 | 3000 | 1600 | | | | 20 |
| Long Point..... | | | | | 20 | 200 | 60 | 3000 | 1600 | | | | 30 |
| Cregnish..... | | | | | 20 | 200 | 40 | 2000 | 800 | | 1500 | | 10 |
| Low Point..... | | | | | 18 | 180 | 35 | 1800 | 600 | | | | 8 |
| Whycocomagh..... | | | | | 12 | 120 | 25 | 200 | 60 | | | | |
| Light Point..... | | | | | 8 | 80 | 20 | 400 | 140 | | | | 4 |
| Coal Mines, Mabou..... | | | | | 16 | 240 | 30 | 800 | 400 | | 2500 | | 10 |
| Mabou Harbour..... | | | | | 25 | 400 | 80 | 2000 | 1000 | | 2000 | 100 | 12 |
| Little Mabou..... | | | | | 15 | 150 | 30 | 1000 | 540 | | | | 10 |
| Port Hawkesbury..... | 6 | 436 | 12000 | 72 | 30 | 500 | 70 | 19000 | 4500 | 12 | 7000 | 720 | 2120 |
| Port Hastings..... | | | | | 20 | 300 | 60 | 15000 | 3500 | | | | 30 |
| West Bay..... | | | | | 20 | 240 | 30 | 800 | 475 | | | | |
| North Mountain..... | | | | | 40 | 500 | 80 | 3500 | 1900 | | | | |
| Malagawatch..... | | | | | 34 | 440 | 68 | 2000 | 1100 | | | | |
| Boom..... | | | | | 14 | 200 | 28 | 1200 | 600 | | | | |
| Basin, River Dennis..... | | | | | 12 | 120 | 20 | 720 | 450 | | | | |
| River Inhabitants..... | | | | | 4 | 40 | 8 | 600 | 300 | | | | |
| S. S. Whycocomagh..... | | | | | 6 | 60 | 12 | 900 | 400 | | | | |
| River Dennis..... | | | | | 2 | 10 | 4 | | | | | | |
| Delaney's Cove..... | | | | | 7 | 240 | 21 | 600 | 314 | | | | 25 |
| Doucett's Cove..... | | | | | 6 | 230 | 18 | 516 | 286 | | 438 | | 46 |
| East Margaree..... | | | | | 26 | 1600 | 85 | 5640 | 4200 | | 840 | | 320 |
| West Margaree..... | 6 | 104 | 5200 | 30 | 8 | 536 | 25 | 3200 | 2420 | | 29448 | | 126 |
| Margaree Forks..... | | | | | | | | | | | 1800 | | |
| Margaree River..... | | | | | | | | | | | 620 | | |
| Margaree Island..... | | | | | 24 | 424 | 59 | 960 | 638 | | | | 413 |
| Broad Cove Marsh..... | | | | | 10 | 400 | 30 | 800 | 270 | | | | 96 |
| Port Bain..... | | | | | 8 | 263 | 18 | 225 | 114 | | | | 40 |
| Broad Cove Shore..... | | | | | 9 | 120 | 21 | 480 | 260 | | | | 53 |
| Coal Mines..... | | | | | 4 | 142 | 9 | 450 | 284 | | | | 11 |
| Lake Outlet & Loch Bain..... | | | | | 5 | 30 | 10 | 32 | 76 | | | | |
| Trout Brook..... | | | | | | | | | | | | | |
| Cheticamp Point..... | | | | | 44 | 1750 | 170 | 1700 | 825 | 10 | | | 250 |
| Eastern Harbour..... | 4 | 126 | 1600 | 28 | 82 | 3520 | 250 | 3145 | 2565 | 10 | 3200 | | 610 |
| Cape Rouge..... | | | | | 20 | 600 | 60 | 800 | 600 | 10 | | 2016 | 300 |
| Pleasant Bay..... | | | | | 22 | 680 | 66 | 700 | 650 | | | 1200 | 500 |
| Big Pond..... | | | | | 20 | 1000 | 60 | 1500 | 900 | | 3500 | | 200 |
| Friar Head..... | | | | | 19 | 900 | 57 | 2200 | 1120 | | 12000 | | 135 |
| Mill Brook..... | | | | | 6 | 300 | 18 | 400 | 650 | | | | 25 |
| Big Pond & N.E. Margaree..... | | | | | | | | | | | 3000 | | 50 |
| Totals..... | 17 | 679 | 19000 | 133 | 866 | 21515 | 2347 | 110268 | 46357 | 42 | 69346 | 4036 | 5614 |
| | | | | | | | | | | | | | 19300 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | | VALUE. |
|-------------------|--------------------|-----------|----------------------------------|------------------------|-------------------|---------------|---------------|-------------|-----------------|--------------|----------------|-------------------|-----------------|--------------------|-----------------------------|-------------------------------|------------|
| Herring, barrels. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, barrels. | Hake and Pollock, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | Fish used as manure, barrels. | |
| 800 | 2500 | 800 | 800 | 300 | 1000 | 200 | 1000 | 200 | 1000 | 30 | 44381 | 2000 | 300 | 28,035 | 72 | 8 | cts. |
| 200 | 200 | 200 | 200 | 200 | 200 | 100 | 100 | 50 | 50 | 100 | 36433 | 400 | 100 | 8,481 | 96 | | |
| 2000 | 250 | 100 | 100 | 50 | 50 | 2000 | 1000 | 20 | 1000 | 40 | 41403 | 100 | 200 | 10,980 | 00 | | |
| 500 | 200 | 50 | 50 | 30 | 30 | 2000 | 2000 | 30 | 2000 | 30 | | 100 | 200 | 9,228 | 36 | | |
| 400 | 250 | 10 | 10 | 25 | 25 | 1000 | 1000 | 30 | 2000 | 10 | | 100 | 100 | 3,780 | 00 | | |
| 25 | 50 | 15 | 15 | 10 | 10 | 1000 | 1000 | 2500 | 2500 | 30 | | 10 | 10 | 809 | 00 | | |
| 30 | 20 | 3000 | 3000 | 2500 | 2500 | 60 | 200 | 100 | 20 | 10 | | 10 | 10 | 949 | 00 | | |
| 50 | 40 | 150 | 150 | 50 | 50 | 100 | 400 | 2000 | 10 | 2000 | 10 | 10328 | 60 | 30 | 1,295 | 00 | |
| 25 | 200 | 25 | 100 | 100 | 2000 | 1000 | 20 | 1500 | 10 | 50 | 6393 | 100 | 60 | 3,898 | 36 | | |
| 50 | 500 | 25 | 25 | 40 | 40 | 2000 | 1000 | 10 | 10 | 40 | | 1300 | 60 | 5,012 | 16 | | |
| 50 | 150 | 35 | 210 | 30 | 350 | 90 | 1200 | 40 | 7000 | 75 | | 420 | 25 | 1,300 | 00 | | |
| 1150 | 200 | 3200 | 60 | 30 | 350 | 90 | 1200 | 40 | 7000 | 75 | | 420 | 25 | 58,916 | 00 | | |
| 85 | 1320 | 400 | 250 | 246 | 800 | 640 | 580 | 1672 | | 10 | | 842 | 123 | 8,985 | 50 | | |
| 1125 | 400 | 420 | 3000 | 246 | 800 | 640 | 580 | 1672 | | 10 | | 842 | 123 | 8,575 | 00 | | |
| 950 | 420 | 310 | 3600 | 2400 | 2000 | 2500 | 3000 | 90 | 3200 | 65 | | 112 | 36 | 7,535 | 00 | | |
| 195 | 310 | 300 | 1800 | 2400 | 2000 | 2500 | 3000 | 90 | 3200 | 65 | | 112 | 36 | 4,200 | 50 | | |
| 170 | 300 | 210 | 2400 | 2000 | 2500 | 3000 | 90 | 3200 | 65 | | | 112 | 36 | 5,793 | 50 | | |
| 120 | 210 | | 2400 | 2000 | 2500 | 3000 | 90 | 3200 | 65 | | | 112 | 36 | 5,170 | 00 | | |
| 40 | 20 | 250 | | | | | | | | | | | | 700 | 00 | | |
| 100 | 380 | | | | | | | | | | | | | 2,580 | 00 | | |
| 92 | 406 | | | | | | | | | | | | | 1,262 | 00 | | |
| 400 | 58 | 2600 | | | | | | | | | | | | 2,561 | 80 | | |
| 134 | 150 | 1834 | | | | | | | | | | | | 120 | 30 | | |
| 14 | 200 | 75 | | | | | | | | | | | | 842 | 123 | | |
| 432 | | | | | | | | | | | | | | 1630 | 139 | | |
| 146 | 261 | | | | | | | | | | | | | 180 | | | |
| 160 | 24 | 172 | | | | | | | | | | | | | | | |
| 113 | 114 | | | | | | | | | | | | | | | | |
| 104 | 20 | 194 | | | | | | | | | | | | | | | |
| 26 | 86 | | | | | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | | | | | | |
| 4400 | | | | | | | | | | | | | | | | | |
| 6300 | | | | | | | | | | | | | | | | | |
| 800 | | | | | | | | | | | | | | | | | |
| 1500 | | | | | | | | | | | | | | | | | |
| 1500 | | | | | | | | | | | | | | | | | |
| 1250 | | | | | | | | | | | | | | | | | |
| 300 | | | | | | | | | | | | | | | | | |
| 2200 | | | | | | | | | | | | | | | | | |
| 9743 | 1226 | 35552 | 95 | 1560 | 1730 | 3011 | 4040 | 59432 | 2115 | 115300 | 839 | 1900 | 173066 | 15506 | 2880 | 1800 | 377,339 12 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | |
|-------------------------------------|--|----------|--------|------|--------|--------|-------------------|--------|
| | Vessels. | | | | Boats. | | Nets. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. |
| <i>Richmond Co.</i> | | | \$ | | | \$ | | \$ |
| Arichat | 3 | 100 | 1600 | 30 | 80 | 1000 | 150 | 70000 |
| West Arichat | 2 | 60 | 700 | 12 | 90 | 1000 | 150 | 40000 |
| Petit de Grat | 2 | 90 | 700 | 14 | 200 | 2000 | 200 | 90000 |
| Cape au Guet | | | | | 70 | 800 | 180 | 60000 |
| Port Royal | 2 | 40 | 900 | 12 | 14 | 400 | 24 | 20000 |
| D'Escousse | 20 | 900 | 20000 | 300 | 40 | 150 | 90 | 50000 |
| Polimand | 2 | 90 | 2200 | 24 | 10 | 100 | 20 | 1000 |
| Port Richmond | 4 | 180 | 4000 | 40 | 10 | 100 | 20 | 1000 |
| Cape LeRond | 1 | 45 | 800 | 15 | 40 | 400 | 60 | 5000 |
| Rocky Bay | | | | | 40 | 650 | 80 | 8000 |
| Little Anse | | | | | 50 | 900 | 100 | 8000 |
| Gros Nez | 1 | 40 | 600 | 10 | 60 | 90 | 100 | 8000 |
| River Inhabitants | 3 | 120 | 1900 | 18 | 20 | 200 | 20 | 9000 |
| Black River | | | | | 20 | 200 | 20 | 900 |
| Lower d'Escousse | 6 | 1800 | 3000 | 60 | 40 | 200 | 80 | 1000 |
| Martinique and Lennox Passage | | | | | 12 | 400 | 20 | 1000 |
| Fourchu | 2 | 42 | 1100 | 7 | 20 | 765 | 60 | 2800 |
| Framboise | | | | | 15 | 375 | 45 | 3000 |
| St. Esprit | | | | | 5 | 100 | 10 | 1400 |
| L'Archeveque | | | | | 9 | 180 | 18 | 2520 |
| Grand River | | | | | 29 | 580 | 58 | 10440 |
| Point Michaud | | | | | 14 | 225 | 27 | 2500 |
| L'Ardoise | 1 | 15 | 250 | 5 | 270 | 5100 | 560 | 14600 |
| St. Peter's Island | | | | | 60 | 1250 | 120 | 7500 |
| St. Peter's | 4 | 88 | 1200 | 22 | 40 | 650 | 80 | 12000 |
| River Bourgeois | 22 | 551 | 11000 | 175 | 17 | 200 | 20 | 2200 |
| Totals | 75 | 4161 | 49950 | 744 | 1276 | 17915 | 2308 | 431860 |
| | | | | | | | | 166922 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia.—Con.

| KINDS OF FISH. | | | | | | | | | | | FISH PRODUCTS. | | VALUE. |
|------------------|--------------------|-------------------------|--------------------|--------------------|-----------|-------------------------------|---------------|--------------|----------------|-----------------|--------------------|-----------------------------|------------|
| Salmon, barrels. | Mackerel, barrels. | Mackerel, in cans, lbs. | Herrings, barrels. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, brls. | Haddock, cwt. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | |
| | | | | | | | | | | | | | \$ cts. |
| | 200. | 2000 | 4000 | 300 | 3000 | 10 | 4000 | | | 400000 | 60 | 20 | 96,744 00 |
| | 100 | 100 | 100 | 100 | 1000 | 7 | 1000 | 800 | 10 | 400000 | 60 | 10 | 58,619 00 |
| 2 | 300 | 2000 | 3000 | 50 | 1000 | 30 | 1000 | | | 110000 | 60 | 10 | 38,536 00 |
| | 30 | | 1000 | 20 | 1000 | 10 | 2000 | | | | 40 | 10 | 16,671 00 |
| | 20 | | 600 | 20 | 500 | 5 | 100 | 1000 | | | 50 | 10 | 5,335 00 |
| | 50 | | 1000 | | 60000 | 100 | 200 | | | 20000 | 300 | 40 | 249,130 00 |
| | 20 | | 50 | | 5000 | 20 | | | | | 80 | 10 | 20,747 00 |
| | 50 | | 60 | 40 | 1000 | 20 | | | 30 | | 50 | 10 | 5,705 00 |
| | 100 | | 400 | | 1000 | 10 | 100 | | 10 | 400000 | 40 | 10 | 55,731 00 |
| | 100 | | 200 | | 200 | 10 | 100 | | | | 50 | 10 | 3,635 00 |
| | 200 | | 400 | | 1000 | 20 | 1000 | | 20 | | 40 | 10 | 13,031 00 |
| | 400 | | 500 | | 1000 | 10 | 1000 | | | | 30 | 10 | 16,127 00 |
| 10 | 100 | | 200 | 60 | 100 | 5 | | | 20 | | 20 | 10 | 3,243 00 |
| | | | | | | | | | 50 | | | | 660 00 |
| | 100 | | 200 | 50 | 5000 | 20 | 60 | | | | 10 | 10 | 22,984 00 |
| | 50 | | 200 | 10 | | | | | 80 | | | | 2,395 00 |
| | 120 | | 40 | | 400 | | | | | 75968 | 200 | | 12,756 16 |
| | 30 | | 30 | | 75 | | | | | | 30 | | 882 00 |
| | 35 | | 35 | | 25 | | | | | | 10 | | 769 00 |
| | 27 | | 18 | | 90 | | | | | 3360 | 30 | | 1,252 20 |
| | 145 | | 145 | | 174 | | | | | | 60 | | 3,475 00 |
| | 55 | 1200 | 120 | 12 | 230 | | 50 | | | 37500 | 80 | | 7,155 00 |
| 8 | 700 | | 600 | 250 | 3300 | | 3550 | | | | 2800 | | 42,673 00 |
| | 400 | | 220 | 50 | 550 | | 300 | | 5 | 125000 | 350 | 30 | 25,740 00 |
| 2 | 40 | | 60 | 20 | 1000 | | | | | | 400 | | 5,122 00 |
| | 10 | | 100 | 10 | 5500 | | 150 | | 12 | | 2000 | | 24,115 00 |
| | | | | | | | | | | | | | *22,500 00 |
| 22 | 3382 | 5300 | 13278 | 992 | 92144 | 277 | 14610 | 1800 | 237 | 1571828 | 6850 | 210 | 755,732 36 |

*Amount used for home consumption, not included above.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | | | | | |
|--------------------------------------|---|----------|--------|------|--------|--------|----------------------|----------|--------|------------------|-----------------------------|----------------------|-----------------------|--------------------|--------------------|-------------------|-----------------------------|
| | Vessels. | | | | Boats. | | Nets. | | | | | | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Salmon, in cans, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Herrings, smoked, in boxes. |
| <i>Victoria Co.</i> | | | \$ | | \$ | | | \$ | | | | | | | | | |
| Englishtown..... | | | | | 52 | 1040 | 104 | 3120 | 1248 | 45 | | | | 26 | | 520 | |
| Black Head..... | | | | | 10 | 120 | 20 | 200 | 468 | 16 | | | | 10 | | 150 | |
| Bird Island..... | | | | | 50 | 2500 | 150 | 3600 | 1800 | 10 | | | | 56 | | 1120 | |
| Barasois..... | | | | | 18 | 216 | 36 | 1285 | 500 | | | | | 5 | | 180 | |
| Indian Brook..... | | | | | 22 | 264 | 44 | 2220 | 840 | | | | | 44 | | 132 | |
| Little River..... | | | | | 20 | 240 | 40 | 2100 | 620 | | | | | 40 | | 300 | |
| Breeding Cove..... | | | | | 17 | 255 | 34 | 1920 | 770 | | | | | 34 | | 153 | |
| French River..... | | | | | 14 | 210 | 28 | 1680 | 700 | | | | | 28 | | 210 | |
| Wreck Cove..... | | | | | 20 | 200 | 40 | 2160 | 900 | | | | | 40 | | 200 | |
| Path End..... | | | | | 6 | 60 | 12 | 662 | 320 | 10 | | | | 24 | | 90 | |
| S. Bay Ingonish..... | | | | | 130 | 4550 | 390 | 10640 | 5240 | 45 | | | | 130 | | 390 | |
| N. Bay Ingonish..... | | | | | 120 | 3000 | 240 | 8640 | 4840 | | | | | 120 | | 420 | |
| Ingonish Island..... | | | | | 10 | 150 | 30 | 1040 | 220 | 4 | | | | 10 | | 20 | |
| Rocky Side St. Ann's..... | | | | | 14 | 140 | 28 | 1700 | 730 | 20 | | | | 42 | | 126 | |
| South Gut..... | | | | | 12 | 120 | 24 | 1400 | 600 | | | | | 12 | | 120 | |
| North Gut..... | | | | | 10 | 100 | 20 | 1180 | 500 | 12 | | | | 15 | | 100 | |
| Munroe's Point..... | | | | | 28 | 280 | 56 | 3620 | 1450 | 10 | | | | 35 | | 252 | |
| Goose Cove..... | | | | | 10 | 100 | 20 | 1060 | 450 | 4 | | | | 12 | | 90 | |
| North River..... | | | | | 38 | 380 | 76 | 3900 | 1850 | 8 | | | | 20 | | 304 | |
| Cape Dauphin..... | | | | | 20 | 240 | 40 | 960 | 480 | 20 | | | | 60 | | 300 | |
| New Campbellton..... | | | | | 35 | 630 | 68 | 1680 | 840 | | | | | 70 | | 525 | |
| Great Bras d'Or..... | | | | | 30 | 300 | 60 | 1440 | 720 | 10 | | | | 15 | | 360 | |
| Big Harbour..... | | | | | 6 | 60 | 12 | 288 | 144 | | | | | | | 18 | |
| Meat Cove..... | | | | | 16 | 288 | 36 | 602 | 300 | | | | | 155 | | 16 | |
| Wreck Cove..... | | | | | 12 | 216 | 25 | 756 | 378 | | | | | 60 | | 30 | |
| Bay St. Lawrence..... | | | | | 45 | 810 | 90 | 2100 | 1050 | | | | | 75 | | 60 | |
| North Harbour..... | | | | | 12 | 240 | 24 | 756 | 378 | 10 | | | | 230 | | 20 | |
| White Point..... | | | | | 48 | 960 | 100 | 3500 | 1750 | 12 | | | | 150 | | 20 | |
| New Haven..... | | | | | 34 | 900 | 68 | 2266 | 1133 | | | | | 34 | | 40 | |
| Neil's Harbour..... | | | | | 45 | 1125 | 90 | 2750 | 1375 | | | | | | | 75 | |
| Green's Cove..... | | | | | 25 | 500 | 60 | 1650 | 825 | | | | | 40 | | 90 | |
| S. S. Little Narrows..... | | | | | 3 | 36 | 4 | 210 | 55 | | | | | 7 | | 48 | |
| Nyanza and N. S. Little Narrows..... | | | | | 5 | 40 | 7 | 308 | 150 | 2 | | | | 1 | | 36 | |
| Baddeck..... | | | | | 9 | 84 | 10 | 390 | 150 | 21 | | | | 4 | | 74 | |
| Kemp Head Boularderie..... | | | | | 3 | 34 | 4 | 184 | 96 | | | | | 3 | | 28 | |
| Washabuck and Gillis' Point..... | | | | | 14 | 168 | 26 | 310 | 170 | | | | | 10 | | 180 | |
| Grand Narrows..... | | | | | 24 | 288 | 51 | 680 | 350 | | | | | 30 | | 685 | |
| Totals..... | | | | | 987 | 20844 | 3034 | 72857 | 44190 | 259 | | | | 1647 | | 7482 | |
| Grand Totals for District No. 1..... | 103 | 5000 | 71140 | 917 | 3754 | 83400 | 9064 | 676775 | 284216 | 341 | 80911 | 150 | 6036 | 11848 | 34600 | 37772 | 120 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | | | VALUR. | |
|--------------------|-----------|----------------------------------|------------------------|-------------------|---------------|---------------|----------------|-------------|-----------------|--------------|----------------|-------------------|-----------------|--------------------|-------------------|-----------------------------|-------------------------------|-----------|------|
| Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, barrels. | Hake and Pollock, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish Guano, tons. | Fish used as bait, barrels. | Fish used as manure, barrels. | \$ | cts. |
| 350 | | | | 250 | 80 | | | | 1500 | | 6 | | | 175 | 75 | | | 11,402 | 50 |
| 130 | | | | 70 | 20 | | | | 10 | | | | | 65 | 8 | | | 1,754 | 00 |
| 570 | | | | | 100 | | | | 50 | | | | | 285 | 60 | | | 8,564 | 00 |
| 70 | | | | | 60 | | | | 40 | | | 20 | | 35 | 10 | | | 1,564 | 00 |
| 90 | | | | | 12 | | | | 10 | | | | | 45 | 8 | | | 1,666 | 00 |
| 200 | | | | | 80 | | | | 20 | | | | 18240 | 100 | 12 | 20 | | 5,256 | 80 |
| 170 | | | | | 75 | | | | 10 | | | | | 85 | 15 | | | 2,198 | 50 |
| 168 | | | | | 50 | | | | 18 | | | | | 84 | 9 | 50 | | 2,276 | 10 |
| 240 | | | | | 60 | | | | 9 | | | | | 120 | 25 | | | 2,721 | 50 |
| 72 | | | | | 40 | | | | 5 | | | | | 36 | 6 | | | 1,371 | 40 |
| 3900 | | | | | 1000 | | | | 100 | | | | 54384 | 1950 | 450 | | | 32,211 | 08 |
| 3600 | | | | | 90 | | | | 95 | | | | | 1800 | 480 | | | 20,060 | 00 |
| 350 | | | | | 50 | | | | 6 | | | | | 175 | 30 | | | 2,033 | 00 |
| 28 | | | | | | | | | 50 | | | | | 14 | 7 | | | 1,780 | 10 |
| 36 | | | | | | | | | 40 | | | | | 18 | 6 | | | 980 | 20 |
| 40 | | | | | | | | | 35 | | | | | 20 | 5 | | | 1,132 | 50 |
| 112 | | | | | | | | | 25 | | | | | 66 | 14 | | | 2,284 | 40 |
| 60 | | | | | | | | | 9 | | | | | 30 | 5 | | | 899 | 50 |
| 380 | | | | | | | | | 50 | | | | | 190 | 19 | | | 3,468 | 50 |
| 600 | | | | | | | | | 95 | | | | | 300 | 60 | | | 5,410 | 00 |
| 1050 | | | | | | | | | 70 | | | | | 525 | 70 | | | 7,945 | 00 |
| 360 | | | | | | | | | 60 | | | | | 180 | 60 | | | 3,667 | 00 |
| 10 | | | | | | | | | 6 | | | | | 5 | 3 | | | 142 | 50 |
| 160 | | | | | | | | | | | | | | 120 | 20 | | | 3,107 | 00 |
| 250 | | | | | | | | | | | | | 12480 | 175 | 30 | | | 3,632 | 60 |
| 500 | | | | | | | | | | | | | | 300 | 75 | | | 3,597 | 50 |
| 455 | | | | | | | | | | | | | | 200 | 22 | | | 5,647 | 00 |
| 1700 | | | | | | | | | | | | | 6480 | 1200 | 180 | | | 10,849 | 60 |
| 2300 | | | | | | | | | | | | | | 2000 | 240 | | | 11,030 | 00 |
| 2400 | | | | | | | | | | | | | | 1500 | 250 | | | 10,875 | 00 |
| 800 | | | | | | | | | | | | | | 500 | 80 | | | 4,480 | 00 |
| 250 | 55 | | | | | | | | | 1000 | 8 | 70 | | 16 | 12 | | | 2,016 | 40 |
| 260 | 15 | | | | | | | 900 | | 1200 | 16 | 60 | | | | | | 1,923 | 00 |
| 32 | 72 | | | | 11 | 300 | | 850 | | 800 | 15 | 15 | | 30 | | | | 1,538 | 00 |
| | 27 | | | | | | | | | | | | | 15 | | | | 271 | 00 |
| 12 | 170 | | | | 13 | 210 | | 600 | | 1400 | 16 | 80 | | 70 | 54 | | | 2,330 | 00 |
| 7 | 364 | | | | 15 | 320 | | | | 1100 | 17 | 50 | | 150 | 100 | | | 5,365 | 50 |
| 571 | 21854 | | | 320 | 1756 | 830 | | 2350 | 2313 | 5500 | 78 | 295 | 91584 | 12629 | 2500 | 70 | | 187,453 | 18 |
| 3080 | 170065 | 372 | 1590 | 2050 | 21992 | 39150 | 13 | 70262 | 4428 | 143950 | 1379 | 2221 | 2078906 | 44322 | 637942 | 1870 | | 1,510,575 | 92 |

RECAPITULATION

OF the Yield and Value of the Fisheries for the Island of **Cape Breton**, for the Year 1890.

| Kinds of Products. | | Quantities. | Rate. | Value. |
|--|-------|-------------|---------|--------------|
| | | | \$ cts. | \$ cts. |
| Salmon, pickled..... | Brls. | 341 | 16 00 | 5,456 00 |
| do fresh, in ice | Lbs. | 80,914 | 0 20 | 16,182 80 |
| do preserved..... | Cans. | 6,036 | 0 15 | 905 40 |
| do smoked..... | Lbs. | 150 | 0 20 | 30 00 |
| Mackerel, pickled | Brls. | 11,848 | 15 00 | 177,720 00 |
| do | Cans. | 24,600 | 0 12 | 2,952 00 |
| Herring..... | Brls. | 37,772 | 4 00 | 151,088 00 |
| do smoked.... | Boxes | 120 | 0 25 | 30 00 |
| Alewives..... | Brls. | 3,080 | 4 50 | 13,860 00 |
| Cod, dried..... | Cwt. | 170,065 | 4 00 | 680,260 00 |
| Cod Tongues and Sounds..... | Brls. | 372 | 10 00 | 3,720 00 |
| Hake and Pollock. | Cwt. | 1,590 | 4 00 | 6,360 00 |
| Hake Sounds | Lbs. | 2,050 | 1 00 | 2,050 00 |
| Haddock..... | Cwt. | 21,992 | 4 00 | 87,968 00 |
| Halibut..... | Lbs. | 39,150 | 0 10 | 3,915 00 |
| Shad..... | Brls. | 13 | 10 00 | 130 00 |
| Trout..... | Lbs. | 70,262 | 0 10 | 7,026 20 |
| Squid..... | Brls. | 4,428 | 4 00 | 17,712 00 |
| Smelts | Lbs. | 143,950 | 0 06 | 8,637 00 |
| Eels | Brls. | 1,379 | 10 00 | 13,790 00 |
| Oysters..... | " | 2,221 | 3 00 | 6,663 00 |
| Lobsters..... | Cans. | 2,078,906 | 0 12 | 249,468 72 |
| Fish Oil..... | Gals. | 44,322 | 0 40 | 17,728 80 |
| do Guano..... | Tons. | 63 | 25 00 | 1,575 00 |
| do used as bait..... | Brls. | 7,942 | 1 50 | 11,913 00 |
| do do manure..... | " | 1,870 | 0 50 | 935 00 |
| do used for home consumption in Richmond County..... | | | | 22,500 00 |
| Total..... | | | | 1,510,575 92 |

COMPARATIVE STATEMENT of the Value of Fisheries for the Four Counties of the Island of Cape Breton, for the Years 1889 and 1890.

| Counties. | 1889. | 1890. | Decrease. | Increase. |
|------------------|--------------|--------------|-----------|------------|
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Cape Breton..... | 195,293 70 | 190,051 26 | 5,242 44 | |
| Inverness..... | 378,326 54 | 377,339 12 | 987 42 | |
| Richmond..... | 566,346 80 | 755,732 36 | | 189,385 56 |
| Victoria..... | 242,612 30 | 187,453 18 | 55,159 12 | |
| Total..... | 1,382,579 34 | 1,510,575 92 | 61,388 98 | 189,385 56 |
| Increase..... | | | | 127,996 58 |

TABLE showing the Number and Value of Vessels and Boats, Nets and Seines, &c., engaged in the Fisheries of the Island of Cape Breton, and the Approximate Estimates of the Value of other Material not included in the Returns for 1890.

| Material. | Value. | Total. |
|---|---------|---------|
| | \$ | \$ |
| 103 vessels—5,000 tons..... | 71,140 | |
| 3,754 boats..... | 83,400 | |
| 676,775 fathoms of nets..... | 284,216 | 438,756 |
| Canning establishments..... | 58,200 | |
| Seines, not included in returns..... | 5,420 | |
| Lobster traps..... | 32,500 | |
| Hand lines, trawls, &c..... | 34,100 | |
| Steamers, smacks, punts, canoes, &c..... | 14,300 | |
| Fishing piers, houses and other sundries..... | 58,000 | |
| | | 202,520 |
| Total..... | | 641,276 |

NOVA SCOTIA,

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men Employed, &c., in the

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Herring, barrels. | |
|--------------------------|--|----------|--------|--------|------|--------|----------------------|----------|--------|-----|-----------------------------|--------------------|-------------------|--------|
| | Vessels. | | | Boats. | | | NETS. | | Weirs. | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | | | | Value. |
| | | | | | | | | | | | | | | |
| <i>Antigonish Co.</i> | | \$ | | \$ | | \$ | | \$ | | | | | | |
| Tracadie..... | | | | 67 | 2200 | 143 | | 35000 | 16000 | | | 5000 | 500 | 60 |
| Antigonish..... | | | | 42 | 1000 | 77 | | 19500 | 1000 | | | 15000 | 12 | 16 |
| Morristown..... | | | | 80 | 2000 | 166 | | 40000 | 19000 | | | 8000 | 105 | 100 |
| Arisaig..... | | | | 60 | 1500 | 130 | | 30000 | 12000 | | | 5000 | 60 | 70 |
| Totals..... | | | | 249 | 6700 | 516 | | 124500 | 48000 | | | 33000 | 677 | 246 |
| Values..... | 8 | | | | | | | | | | | 6600 | 10155 | 984 |
| <i>Colchester Co.</i> | | | | | | | | | | | | | | |
| Stirling..... | | | | 3 | 45 | | | 500 | 500 | | | | | 30 |
| Lower Stewiacke..... | | | | 16 | 80 | 16 | | 160 | 96 | | | 2400 | | |
| Forest Glen..... | | | | 4 | 20 | 4 | | 60 | 24 | | | 900 | | |
| Middle Stewiacke..... | | | | 4 | 20 | 4 | | 60 | 24 | | | 600 | | |
| Masstown..... | | | | 6 | 208 | 12 | | 1675 | 250 | | | 1100 | | |
| Little Dyke..... | | | | 7 | 285 | 14 | | 2125 | 298 | | | 1977 | | |
| Great Village..... | | | | 3 | 115 | 6 | | 950 | 150 | | | 1032 | | |
| Great Village Point..... | | | | 3 | 105 | 6 | | 900 | 130 | | | 870 | | |
| Highland Village..... | | | | 4 | 165 | 8 | | 1225 | 180 | | | 660 | | |
| Five Houses..... | | | | 1 | 50 | 2 | | 350 | 45 | | | 300 | | |
| Bass River..... | | | | 3 | 125 | 9 | | 880 | 175 | 1 | 225 | 800 | | |
| Birch Hill..... | | | | | | 4 | | | | 1 | 400 | | | |
| Little Bass River..... | | | | 3 | 130 | 8 | | 950 | 160 | 1 | 300 | 880 | | |
| Upper Economy..... | | | | 4 | 150 | 16 | | 1100 | 170 | 4 | 1300 | 1120 | | 37 |
| Central Economy..... | | | | | | 3 | | | | 1 | 300 | | | 12 |
| Lower Economy..... | | | | | | | | | | 2 | 600 | 315 | | 21 |
| Five Islands..... | | | | 5 | 200 | 13 | | trawls | 175 | | | | | |
| Totals..... | | | | 66 | 1698 | 125 | | 10935 | 2377 | 10 | 3125 | 12954 | | 100 |
| Values..... | 8 | | | | | | | | | | | 2590 | | 400 |

DISTRICT No. 2.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of Nova Scotia, for the year 1890.

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | | VALUE. |
|----------------------------|--------------------|-----------|---------------|------------|---------------|---------------|----------------|-----------|-------------|--------------|----------------|-------------------|-----------------|--------------------|-------------------|-----------------------------|-----------|
| Herrings, smoked, n boxes. | Alewives, barrels. | Cod, cwt. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bas, lbs. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Hake Sounds, lbs. | Fish used as bait, barrels. | |
| ... | 100 | 38 | ... | 70 | 108 | ... | ... | 270 | 2800 | 3500 | 120 | 200 | 110000 | 150 | 110 | 1050 | 27,305 00 |
| ... | 40 | 30 | ... | 90 | 30 | ... | ... | 2800 | 4000 | 18000 | 200 | 40 | ... | 110 | 220 | 300 | 8,506 00 |
| ... | 110 | 150 | ... | 2000 | 140 | ... | ... | 700 | 170 | 6500 | ... | ... | 68000 | 900 | 1600 | 400 | 24,399 00 |
| ... | 115 | 65 | ... | 1500 | 168 | ... | ... | 500 | 400 | 10000 | 6 | ... | 62000 | 650 | 3000 | 300 | 21,510 00 |
| ... | 365 | 283 | ... | 3660 | 446 | ... | ... | 4270 | 7370 | 38000 | 326 | 240 | 240000 | 1810 | 4930 | 2050 | ... |
| ... | 1643 | 1132 | ... | 14640 | 1784 | ... | ... | 256 | 737 | 2280 | 3260 | 720 | 28800 | 724 | 4930 | 3075 | 81,720 00 |
| 60 | 20 | ... | ... | ... | ... | ... | ... | 9 | 500 | 100 | 29000 | 20 | ... | ... | ... | 300 | 2,385 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 20 | ... | 150 | ... | ... | ... | ... | ... | ... | 691 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 15 | ... | 200 | ... | ... | ... | ... | ... | ... | 375 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 42 | ... | ... | ... | ... | ... | ... | ... | ... | 275 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 39 | ... | ... | ... | ... | ... | ... | ... | ... | 598 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 21 | ... | ... | ... | ... | ... | ... | ... | ... | 746 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 16 | ... | ... | ... | ... | ... | ... | ... | ... | 395 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 33 | 210 | 200 | ... | ... | ... | ... | ... | ... | 318 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | 429 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 33 | ... | 150 | ... | ... | ... | ... | ... | ... | 96 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 32 | ... | ... | ... | ... | ... | ... | ... | ... | 490 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 19 | ... | ... | ... | ... | ... | ... | ... | ... | 288 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | 45 | ... | ... | ... | ... | ... | ... | ... | ... | 362 00 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1000 | ... | ... | ... | ... | ... | ... | 777 00 |
| 1800 | ... | 9 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 100 00 |
| ... | ... | 136 | ... | ... | ... | 2250 | 31 | ... | 500 | ... | ... | ... | ... | 112 | ... | 20 | 561 00 |
| 1860 | 20 | 145 | ... | ... | ... | 2250 | 362 | 710 | 2300 | 29000 | ... | 20 | ... | 112 | ... | 320 | 1,320 00 |
| 465 | 90 | 580 | ... | ... | ... | 225 | 3258 | 43 | 230 | 1740 | ... | 60 | ... | 45 | ... | 480 | 10,200 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | |
|---|--|----------|--------|------|--------|--------|-------------------|--------|--------|--------|-----------------------------|--------------------|-------------------|
| | Vessels. | | | | Boats. | | Nets. | | Weirs. | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Herring, barrels. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | | | |
| <i>Cumberland Co.</i> | | | \$ | | | \$ | | \$ | | \$ | | | |
| Pugwash, Port Philip and Gulf Shore..... | | | | | 35 | 879 | 56 | 725 | 504 | | | | |
| Wallace..... | | | | | 60 | 1200 | 80 | 1400 | 560 | | | 4 | 350 |
| River Philip..... | 2 | 60 | 2000 | 7 | 5 | 90 | 12 | 300 | 450 | | 3800 | | |
| LaPlanche River..... | | | | | 2 | 40 | 4 | 144 | 150 | | | | |
| Nappan..... | | | | | 1 | 20 | 2 | 50 | 50 | | | | |
| Minudie..... | | | | | 2 | 40 | 4 | 100 | 140 | | 300 | | |
| Apple River..... | | | | | 3 | 60 | 6 | 120 | 160 | | 1500 | | |
| Advocate..... | | | | | 7 | 100 | 14 | 100 | 100 | | 30 | 50 | |
| Spencer Island..... | | | | | 3 | 70 | 7 | 150 | 150 | 2 | 50 | 60 | |
| Port Greville..... | | | | | 4 | 80 | 8 | 150 | 150 | | 350 | 50 | |
| Parrsboro'..... | | | | | 2 | 40 | 4 | 50 | 50 | 1 | 150 | 30 | |
| Two Islands..... | | | | | 1 | 20 | 2 | 20 | 20 | | 100 | 10 | |
| Totals..... | 2 | 60 | 2000 | 7 | 125 | 2639 | 199 | 3309 | 2484 | 3 | 6200 | 34 | 550 |
| Values..... | \$ | | | | | | | | | | 1240 | 510 | 2200 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. |
|--------------------|-----------|---------------|------------|---------------|---------------|----------------|------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|-----------------------------|-----------|
| Alewives, barrels. | Cod, cwt. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bass, lbs. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | |
| 4 | 20 | | 1 | 2 | | | | | 7500 | | 282 | 123120 | | | 8 cts. |
| 275 | | | | | | 3 | 200 | 1000 | 2000 | 3 | 100 | 149800 | | 91 | 16,317 00 |
| 460 | | | | | | 10 | | 1200 | 1000 | 15 | | | | 600 | 22,163 00 |
| 90 | | | | | | 20 | | | 500 | | | | | | 3,250 00 |
| 13 | | | | | | 10 | | | 50 | | | | | | 615 00 |
| 10 | | | | | | 117 | | | 150 | | | | | | 152 00 |
| | 30 | 10 | 15 | 12 | | | | 150 | | | | | | | 1,167 00 |
| | 100 | | | 75 | 200 | | | | | | | | | | 583 00 |
| | 65 | 20 | | 75 | 100 | | | | | | | 2000 | | | 1,610 00 |
| | 75 | 10 | | 60 | 250 | | | | | | | | | | 890 00 |
| | 15 | | | 30 | 100 | | | | | | | | 20 | | 883 00 |
| | 10 | | | 10 | 50 | | | | | | | | | | 340 00 |
| | | | | | | | | | | | | | | | 145 00 |
| 852 | 315 | 40 | 16 | 264 | 700 | 160 | 200 | 2350 | 11200 | 18 | 382 | 274920 | 20 | 691 | |
| 3834 | 1260 | 160 | 64 | 1056 | 70 | 1440 | 12 | 235 | 672 | 180 | 1146 | 32991 | 8 | 1037 | 48,115 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats Engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | | | |
|--|--|----------|--------|--------|-------|--------|-------------------|------------------------------|--------|------------------|-----------------------------|----------------------|-----------------------|--------------------|--------|
| | Vessels. | | | Boats. | | | Nets. | Weirs, Seines & Traps. | | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, Smoked, lbs. | Salmon, in cans, lbs. | Mackerel, barrels. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | | | | | | No. | Value. |
| | | £ | | | £ | | | £ | £ | | | | | | |
| Guysboro' Co. | | | | | | | | | | | | | | | |
| From East Side Beckerton, Fisherman's Harbour, Country Harbour to New Harbour | 5 172 | 5050 | 38 | 219 | 5650 | 237 | 19620 | 9810 | 2 | 425 | 1 | | | 960 | 644 |
| From New Harbour to White Head | 6 124 | 3600 | 28 | 474 | 10940 | 513 | 67780 | 33890 | | | | | | 480 | 1869 |
| From thence to Canso and Tittle | 1 49 | 700 | 11 | 245 | 5850 | 250 | 22860 | 11430 | 28 | 4200 | | 2000 | | | 874 |
| From thence to Salmon River | | | | 264 | 4020 | 294 | 40160 | 20080 | 35 | 4700 | | | | 96 | 1518 |
| From thence, viz., Cook's Cove, Guysboro, North Shore, and Straits of Canso to County Line .. | 4 91 | 2250 | 14 | 471 | 6675 | 532 | 80840 | 40420 | 12 | 1400 | | 8300 | | | 2658 |
| St. Mary's Bay and River .. | | | | 42 | 550 | 50 | 6100 | 460 | | | | 9500 | 560 | 270 | 12 |
| Gegogin Harbour and River .. | | | | 14 | 320 | 30 | 2300 | 175 | | | | 650 | 200 | | 3 |
| Indian Harbour | | | | 30 | 550 | 50 | 9500 | 650 | 1 | 70 | | | | | 10 |
| Beckerton | | | | 36 | 850 | 55 | 6500 | 520 | | | | | | | 4 |
| Holland's Harbour and In- dian River | | | | 15 | 320 | 30 | 2300 | 180 | | | | 120 | | | |
| Wine Harbour | 1 10 | 300 | 4 | 32 | 520 | 56 | 2800 | 190 | 1 | 60 | | 800 | 100 | | 10 |
| Liscomb Bay and Spanish Bay .. | | | | 98 | 3200 | 200 | 7800 | 1300 | 2 | 120 | | 300 | | | 15 |
| Marie Joseph | | | | 65 | 1900 | 180 | 4500 | 900 | 1 | 60 | | 500 | | 200 | 150 |
| Ecum Secum | | | | 45 | 960 | 130 | 4100 | 840 | 1 | 25 | | 1000 | 250 | | 50 |
| Head of Country Harbour and River | | | | 4 | 50 | 4 | 80 | 32 | | | | 300 | | | |
| Totals .. | 17 446 | 11900 | 95 | 2054 | 42355 | 2611 | 277240 | 120877 | 83 | 11060 | 1 | 23470 | 1110 | 2006 | 7817 |
| Values .. | 8 | | | | | | | | | | 16 | 4694 | 222 | 300 | 117255 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—*Con.*

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. | |
|--------------------|-------------------|--------------------|-----------|----------------------------------|---------------|------------|---------------|---------------|----------------|-------------|-----------------|--------------|----------------|-----------------|--------------------|-----------------------------|------------|
| Mackerel, in cans. | Herring, barrels. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, barrels. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | |
| | | | | | | | | | | | | | | | | | \$ cts. |
| | 1256 | 157 | 1908 | | | | 357 | 2500 | | 1000 | | 22000 | 80 | 149856 | 944 | 92 | 45,579 00 |
| | 2306 | 805 | 6720 | | | | 1549 | 4050 | | 5000 | | 150 | 76 | 329088 | 3335 | 582 | 117,401 00 |
| 26208 | 579 | | 3760 | | | | 698 | | | | 1955 | | 50 | 276740 | 1503 | 303 | 79,387 00 |
| | 517 | | 3265 | | | | 783 | | | | 4465 | | | 46608 | 1627 | 321 | 65,630 00 |
| | 2808 | 997 | 1736 | | | | 1064 | | | 500 | 1233 | 10000 | 20 | | 738 | 105 | 74,683 00 |
| | 140 | 22 | 165 | | | | 8 | 750 | 2 | 4800 | 2 | 3000 | 9 | 36500 | 80 | 140 | 9,056 00 |
| | 60 | 5 | 120 | | | | 5 | 540 | | 1200 | 3 | 2000 | 10 | | 50 | 60 | 1,493 00 |
| | 300 | 10 | 70 | | | | 10 | 800 | | 1000 | 4 | 3500 | 12 | 14400 | 35 | 180 | 4,253 00 |
| | 210 | | 115 | | | | | 750 | | | | | 20 | 66050 | 55 | 170 | 9,838 00 |
| | 75 | 6 | 60 | | | | | 300 | 1 | 2000 | | | | | 30 | 280 | 1,262 00 |
| | 260 | | 165 | | | | | 1400 | 2 | 500 | 2 | 1200 | 9 | | 80 | 200 | 2,740 00 |
| | 320 | 270 | 2500 | | 20 | 100 | | 4000 | | 4600 | | 20000 | 50 | 66500 | 1100 | 1500 | 26,490 00 |
| | 50 | | 800 | 10 | 30 | 200 | | 3500 | | | 50 | 9000 | 25 | 45000 | 400 | 1100 | 15,350 00 |
| | 20 | | 160 | 3 | | | | 650 | | 2800 | | 3000 | 30 | 2500 | 100 | 900 | 4,265 00 |
| | 12 | | | | | | | | 1 | 1200 | | 200 | | | | | 255 00 |
| 26208 | 8901 | 2284 | 21544 | 13 | 50 | 300 | 4474 | 19240 | 6 | 24600 | 7714 | 74050 | 391 | 1033242 | 10077 | 5933 | |
| 3145 | 35604 | 10279 | 86176 | 130 | 200 | 1200 | 17896 | 1924 | 54 | 2460 | 30856 | 4443 | 3910 | 123989 | 4030 | 8899 | 457,682 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | | FISHING MATERIAL. | | | | | | | |
|--|--|----------|--------|------|--------|--------|------|-------------------|--------|---------|--------|------------------|-----------------------------|----------------------|--------------------|
| | Vessels. | | | | Boats. | | | Nets. | | Seines. | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | Value. | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Mackerel, barrels. |
| <i>Halifax Co.</i> | | | \$ | | | \$ | | | \$ | | \$ | | | | |
| North Shore..... | 3 | 60 | 2400 | 15 | 224 | 6720 | 210 | 48000 | 4800 | 53 | 10600 | | 800 | | 1650 |
| East St. Margaret's..... | 4 | 80 | 2600 | 24 | 195 | 5850 | 205 | 49400 | 4940 | 65 | 13000 | | | | 1680 |
| Indian Harbour..... | 3 | 60 | 1650 | 18 | 125 | 3750 | 118 | 19400 | 1940 | 38 | 7600 | | 500 | | 1600 |
| Peggy's Cove..... | | | | | 114 | 3120 | 106 | 71560 | 7156 | 64 | 12800 | | 750 | | 310 |
| Dover..... | 8 | 160 | 5600 | 48 | 110 | 3300 | 136 | 62400 | 6240 | 48 | 9600 | | 2000 | | 1100 |
| Prospect..... | 5 | 120 | 3360 | 30 | 445 | 13250 | 387 | 258000 | 38700 | 106 | 21200 | | 2000 | | 2620 |
| Terrance Bay..... | 7 | 140 | 5000 | 48 | 132 | 2640 | 124 | 46000 | 6900 | 30 | 6000 | | | | 630 |
| Pennant..... | 6 | 70 | 2800 | 30 | 92 | 3680 | 109 | 18500 | 2775 | 10 | 2000 | | | | 580 |
| Sambro..... | 3 | 42 | 1600 | 18 | 145 | 5800 | 158 | 18900 | 2835 | 4 | 1200 | | | | 1045 |
| Ketch Harbour..... | 2 | 35 | 550 | 9 | 98 | 2940 | 98 | 21800 | 3270 | 10 | 2250 | | | | 540 |
| Portuguese Cove..... | | | | | 84 | 1680 | 94 | 120000 | 19000 | 26 | 5600 | | 5200 | | 560 |
| Herring Cove..... | 10 | 250 | 7000 | 65 | 118 | 3540 | 116 | 46000 | 5520 | 42 | 8400 | | | | 200 |
| Ferguson's Cove..... | 1 | 25 | 750 | 6 | 25 | 500 | 30 | 12000 | 1440 | 26 | 5200 | | | | 325 |
| Bedford..... | | | | | 15 | 300 | 20 | 4000 | 480 | 4 | 800 | | 800 | | 85 |
| Halifax..... | | | | | | | | | | | | 1700 | | | |
| Eastern Passage to Three Fathom Har- bour..... | | | | | 115 | 1911 | 94 | 32160 | 2396 | | | | 1313 | | 82 |
| Seaforth to East Chezetcook..... | 15 | 475 | 14750 | 142 | 171 | 1823 | 67 | 21900 | 1587 | | | | | | 120 |
| Petpeswick to Clam Harbour..... | 11 | 187 | 6950 | 84 | 239 | 4035 | 198 | 48425 | 3143 | 2 | 400 | | 1198 | 792 | 271 |
| Ship Harbour to Pope's Harbour..... | 3 | 80 | 2300 | 12 | 97 | 1891 | 99 | 22050 | 1532 | | | | 160 | | 138 |
| Pope's Harbour to Taylor's Head..... | 8 | 257 | 5400 | 55 | 80 | 2229 | 103 | 14120 | 3150 | | | | | | 263 |
| Taylor's Head to Beaver Point..... | 2 | 27 | 900 | 5 | 104 | 1817 | 179 | 3060 | 644 | 2 | 45 | | 170 | | 70 |
| Beaver Point to Ecum Secum..... | | | | | 137 | 2483 | 268 | 1780 | 348 | 5 | 165 | | | | 213 |
| Home consumption..... | | | | | | | | | | | | | 1000 | | 450 |
| Totals..... | 91 | 2068 | 63610 | 609 | 2865 | 73259 | 2919 | 939455 | 118796 | 4535 | 106860 | 1700 | 15891 | 792 | 14532 |
| Values..... | \$ | | | | | | | | | | | 27200 | 3178 | 159 | 217980 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. | |
|--|-------------------|--------------------|-----------|-----------------------------------|---------------|------------|---------------|---------------|-------------|--------------|----------------|-----------------|--------------------|-------------------|-----------------------------|------------|
| Mackerel, in cans. | Herring, barrels. | Alewives, barrels. | Cod, cwt. | Cod, Tongues and Sounds, barrels. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Trout, lbs. | Smelts, lbs. | Feds, barrels. | Lobsters, cans. | Fish oil, gallons. | Hake Sounds, lbs. | Fish used as bait, barrels. | \$ cts. |
| .. | 425 | 20 | 650 | 13 | .. | 75 | .. | .. | .. | .. | .. | .. | 600 | 75 | 90 | 39,180 00 |
| .. | 235 | .. | 750 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | 600 | .. | 105 | 29,688 00 |
| .. | 1200 | 50 | 1500 | 40 | .. | 500 | 400 | .. | .. | .. | .. | .. | 1600 | 500 | 280 | 40,685 00 |
| .. | 120 | .. | 305 | 6 | .. | .. | 200 | .. | .. | .. | .. | .. | 240 | .. | 50 | 7,510 00 |
| .. | 415 | 55 | 435 | 15 | .. | 300 | .. | .. | .. | .. | .. | 10368 | 600 | 300 | 90 | 23,817 00 |
| 6720 | 920 | .. | 1480 | 37 | .. | 365 | .. | .. | .. | .. | .. | 31104 | 1480 | 365 | 320 | 57,105 00 |
| .. | 620 | .. | 720 | 15 | .. | .. | 50 | .. | .. | .. | .. | 9840 | 600 | .. | 96 | 16,745 00 |
| .. | 60 | 80 | 1605 | 32 | .. | .. | .. | .. | .. | .. | .. | .. | 1280 | .. | 190 | 16,837 00 |
| .. | 24 | .. | 2080 | 45 | .. | 150 | .. | .. | .. | .. | .. | 96000 | 1800 | 150 | 250 | 37,906 00 |
| .. | 200 | 65 | 1440 | 39 | .. | 90 | 130 | .. | .. | .. | .. | .. | 1560 | 90 | 218 | 17,264 00 |
| .. | 86 | .. | 350 | 9 | .. | 45 | 56 | .. | .. | .. | .. | .. | 360 | 45 | 60 | 11,957 00 |
| .. | 100 | .. | 2310 | 48 | .. | 125 | 120 | 16000 | .. | .. | .. | .. | 1020 | 125 | 320 | 17,073 00 |
| .. | 15 | .. | 130 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 60 | .. | 18 | 5,506 00 |
| .. | 15 | .. | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | .. | 3 | 1,543 00 |
| .. | 20000 | .. | 5000 | .. | .. | .. | .. | .. | 10000 | .. | .. | .. | 20000 | .. | .. | 136,200 00 |
| .. | 413 | 1 | 1783 | .. | 25 | 1 | 484 | 921 | 750 | 7500 | 11 | .. | 308 | .. | 22 | 13,203 00 |
| .. | 398 | 128 | 7328 | .. | 10 | 30 | 233 | 650 | 850 | 2800 | 4 | .. | 1818 | 11 | 200 | 35,768 00 |
| .. | 864 | 42 | 4495 | .. | 85 | 189 | 270 | 431 | 1400 | 12250 | 32 | 134400 | 1077 | 279 | 130 | 46,535 00 |
| .. | 267 | 290 | 1847 | .. | .. | 10 | 143 | 320 | 850 | 1000 | 7 | 99360 | 461 | 12 | 25 | 24,880 00 |
| .. | 963 | 66 | 1566 | .. | .. | 286 | 126 | .. | .. | .. | .. | 69360 | 725 | 597 | .. | 24,919 00 |
| .. | 80 | .. | 827 | .. | .. | .. | 74 | .. | .. | .. | .. | 199025 | 170 | .. | .. | 29,256 00 |
| .. | 64 | 1 | 753 | .. | .. | .. | 11 | .. | .. | .. | .. | 296880 | 205 | .. | .. | 42,219 00 |
| .. | 1800 | .. | 1350 | .. | .. | 250 | 900 | .. | .. | .. | .. | .. | .. | .. | .. | 24,150 00 |
| 6720 | 29284 | 798 | 38714 | 314 | 120 | 2416 | 3197 | 18322 | 13850 | 23550 | 54 | 946337 | 37472 | 2549 | 2467 | .. |
| 806 | 117136 | 3591 | 154856 | 3140 | 480 | 9664 | 12788 | 1832 | 1385 | 1413 | 540 | 113561 | 14989 | 2549 | 3701 | 690,946 00 |
| Add live lobsters shipped to United States | | | | | | | | | | | | | | | 500 00 | .. |
| Fresh fish sold in the Halifax markets | | | | | | | | | | | | | | | 36,800 00 | .. |
| Total | | | | | | | | | | | | | | | 728,246 00 | .. |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | |
|--------------------------------------|--|----------|--------|--------|-----|--------|-------------------|--------|--------|--------|-----------------------------|--------------------|
| | Vessels. | | | Boats. | | | Nets. | | Weirs. | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | | |
| <i>Hants Co.</i> | | | \$ | | | \$ | | \$ | | \$ | | |
| Shubenacadie River to Maitland | | | | | 35 | 420 | 35 | 1440 | 1210 | | 1200 | |
| Grand Lake to Shubenacadie | | | | | 86 | 258 | 86 | 774 | 344 | | 2880 | |
| West Hants | | | | | 10 | 1000 | 20 | 3250 | 1900 | 1 | 120 | 575 |
| Totals | | | | | 131 | 1678 | 141 | 5464 | 3454 | 1 | 120 | 4655 |
| Values | \$ | | | | | | | | | | 931 | |
| <i>Pictou Co.</i> | | | | | | | | | | | | |
| West Pictou | | | | | | | | | | | 4060 | 66 |
| Pictou Island | | | | | 38 | 380 | 70 | 425 | 119 | | | 13 |
| Central Division | | | | | 17 | 378 | 27 | 1599 | 1205 | | 9930 | |
| Southern Division | | | | | 9 | 180 | 9 | 675 | 675 | | 6900 | |
| Chance Harbour | | | | | 16 | 320 | 16 | 1225 | 1225 | | 8700 | |
| Little Harbour | | | | | 7 | 140 | 7 | 880 | 880 | | 10200 | |
| Big Island | | | | | 4 | 80 | 4 | 725 | 725 | | 3300 | |
| North Beach | | | | | 7 | 140 | 9 | 1120 | 1120 | | 4800 | |
| Ponds | | | | | 4 | 80 | 4 | 615 | 615 | | 2900 | |
| Lismore | | | | | | | | | | | | |
| Totals | | | | | 102 | 1698 | 146 | 7264 | 6564 | | 50730 | 79 |
| Values | \$ | | | | | | | | | | 10146 | 1185 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—*Con.*

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. |
|-------------------|--------------------|-----------|----------------------------------|---------------|-------------------|---------------|---------------|----------------|------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|-----------------------------|-------------------------------|------------|
| Herring, barrels. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, barrels. | Pollock, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bass, lbs. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as Bait, barrels. | Fish used as Manure, barrels. | |
| | 149 | | | | | | | 9 | | | | | | | | | | \$ cts. |
| | 620 | | | | | | | 155 | 3620 | | | | | | | | | 992 00 |
| 51 | | | | | | | | 64 | 75 | | | | | | | | | 4,978 00 |
| | | | | | | | | | | | | | | | | | | 900 00 |
| 51 | 769 | | | | | | | 228 | 3695 | | | | | | | | | |
| 204 | 3461 | | | | | | | 2052 | 222 | | | | | | | | | 6,870 00 |
| | | | | | | | | | | | | | | | | | | |
| 567 | 50 | 50 | 15 | 20 | 25 | 30 | 1000 | ... | ... | 400 | 2200 | 30 | 50 | 442560 | 200 | 1200 | 1000 | 61,142 00 |
| 85 | | 20 | | | | 4 | | | | | | | | 253200 | | 387 | 20 | 31,606 00 |
| 222 | 8 | 13 | | | | | | | 200 | 500 | 10000 | 240 | 100 | | | | | 3,362 00 |
| 26 | | | | | | | | | | | | 30 | | | | | | 3,262 00 |
| 342 | | | | | | | | | | | | 20 | | 17520 | | 50 | | 1,684 00 |
| | | | | | | | | | | | | 30 | | | | | | 3,308 00 |
| | | | | | | | | | | | | 20 | | | | | | 4,517 00 |
| 50 | | | | | | | | | | | | 50 | | 66000 | | 50 | | 860 00 |
| | | | | | | | | | | | | 20 | | | | | | 9,655 00 |
| | | | | | | | | | | | | | | | | | | 780 00 |
| 1292 | 58 | 83 | 15 | 20 | 25 | 34 | 1000 | ... | 200 | 900 | 12200 | 460 | 150 | 779280 | 200 | 1687 | 1020 | |
| 5168 | 261 | 332 | 150 | 80 | 100 | 136 | 100 | ... | 12 | 90 | 732 | 4600 | 450 | 93513 | 80 | 2531 | 510 | 120,176 00 |

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in District No. 2, Province of Nova Scotia, for the Year 1890.

| COUNTRIES. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | | | | | | |
|--------------------|--|----------|--------|------|-------------------|--------|----------|--------|------------------|-----------------------------|----------------------|-----------------------|--------------------|--------------------|-------------------|----------------------------|--------------------|-----|
| | Vessels. | | Boats. | | Nets. | | Weirs. | | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Salmon, in cans, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Herring, smoked, in boxes. | Alewives, barrels. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | | | | | | | | | | No. | Value. |
| District No. 2. | | | | | | | | | | | | | | | | | | |
| Antigonish | | | \$ | | 249 | 6700 | 516 | | 124500 | 48000 | | | 677 | | 246 | | 365 | |
| Colchester | | | | | 66 | 1698 | 125 | | 10935 | 2377 | | | | | 100 | 1860 | 20 | |
| Cumberland | 2 | 60 | 2000 | 7 | 125 | 2639 | 199 | | 3309 | 2484 | 3 | 80 | 34 | | 550 | | 852 | |
| Gwynsboro' | 17 | 446 | 11900 | 95 | 2054 | 42355 | 2611 | | 277240 | 120877 | *83 | *11060 | 7817 | 26208 | 8901 | | 2284 | |
| Halifax | 91 | 2068 | 63610 | 609 | 2865 | 73259 | 2919 | | 939455 | 118796 | *4335 | *106860 | 14532 | 6720 | 29284 | | 798 | |
| Hants | | | | | 131 | 1678 | 141 | | 5404 | 3454 | 1 | 120 | | | 51 | | 769 | |
| Pictou | | | | | 102 | 1698 | 146 | | 7264 | 6564 | | | 79 | | 1292 | | 58 | |
| Grand Totals | 110 | 2574 | 77510 | 711 | 5592 | 130027 | 6657 | | 1368167 | 302552 | 14 | 3325 | 23139 | 32928 | 40424 | 1860 | 5146 | |
| Values | \$ | | | | | | | | | | *4418 | *117920 | | | 3951 | 161696 | 465 | |
| | | | | | | | | | 27216 | 29380 | 380 | | 300 | 347085 | | | 23157 | |

* Seines.

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Nova Scotia.—*Concluded.*

| COUNTIES. | KINDS OF FISH. | | | | | | | | | | | FISH MATERIAL. | | | | VALUE. | | | |
|--|----------------|----------------------------------|---------------|------------|---------------|---------------|----------------|------------|-------------|-----------------|--------------|----------------|-------------------|-----------------|--------------------|--------|-------------------|-----------------------------|-------------------------------|
| | Cod, cwt. | Cod Tongues and Sounds, barrels. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bass, lbs. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | LOBSTERS, cans. | Fish Oil, gallons. | | Hake Sounds, lbs. | Fish used as Bait, barrels. | Fish used as Manure, barrels. |
| <i>District No. 2.</i> | | | | | | | | | | | | | | | | | | | |
| Antigonish | 283 | | | 3660 | 446 | | | 4270 | 7370 | | 38000 | 326 | 240 | 240000 | 1810 | 4930 | 2050 | | 81,720 00 |
| Colchester | 145 | | | | | 2250 | 362 | 710 | 2300 | | 23000 | | 20 | | 112 | | 320 | | 10,206 00 |
| Cumberland | 315 | | 40 | 16 | 264 | 700 | 160 | 200 | 2350 | | 11200 | 18 | 382 | 274920 | 20 | | 691 | | 48,115 00 |
| Guysboro' | 21544 | 13 | 50 | 300 | 4474 | 19240 | 6 | | 24600 | 7714 | 74050 | 391 | | 1033242 | 10077 | | 5933 | | 457,682 00 |
| Halifax | 38714 | 314 | 120 | 2416 | 3197 | 18322 | | | 13850 | | 23550 | 54 | | 946337 | 37472 | 2549 | 2467 | | 728,246 00 |
| Hants | | | | | | | 228 | 3635 | | | | | | | | | | | 6,870 00 |
| Pictou | 83 | 15 | 20 | 25 | 34 | 1000 | | 200 | 900 | | 12200 | 460 | 150 | 779280 | 200 | | 1687 | 1020 | 120,176 00 |
| Grand Totals | 61084 | 342 | 230 | 6417 | 8415 | 41512 | 756 | 9075 | 51370 | 7714 | 188000 | 1249 | 792 | 3273779 | 49691 | 7479 | 13148 | 1020 | 1,453,015 00 |
| Value | \$ 244336 | 3420 | 920 | 25668 | 33660 | 4151 | 6804 | 545 | 5137 | 30856 | 11280 | 12490 | 2376 | 392859 | 19876 | 7479 | 19723 | 510 | 1,415,715 00 |
| Fresh fish sold in the Halifax markets | | | | | | | | | | | | | | | | | | | 36,800 00 |
| Live Lobsters shipped to United States | | | | | | | | | | | | | | | | | | | 500 00 |
| | | | | | | | | | | | | | | | | | | | 1,453,015 00 |

RECAPITULATION

OF the Yield and Value of Fisheries in District No. 2, Nova Scotia.

| Kinds of Products. | Quantities. | Rate. | Value. | Total. |
|---|-------------|---------|---------|-----------|
| | | \$ cts. | \$ | \$ |
| Salmon, pickled..... Brls. | 1,701 | 16 00 | 27,216 | |
| do fresh, on ice..... Lbs. | 146,900 | 0 20 | 29,380 | |
| do smoked..... Lbs. | 1,902 | 0 20 | 380 | |
| do cans..... Lbs. | 2,006 | 0 15 | 300 | 57,276 |
| Mackerel, pickled..... Brls. | 23,139 | 15 00 | 347,085 | |
| do cans..... Cans. | 32,928 | 0 12 | 3,951 | 351,036 |
| Herring, pickled..... Brls. | 40,424 | 4 00 | 161,696 | |
| do smoked..... Boxes | 1,860 | 0 25 | 465 | 162,161 |
| Alewives, pickled..... Brls. | 5,146 | 4 50 | | 23,157 |
| Cod, dried..... Cwt. | 61,084 | 4 00 | 244,336 | |
| Cod Tongues and Sounds..... Brls. | 342 | 10 00 | 3,420 | |
| Pollock, dried..... Cwt. | 290 | 4 00 | 920 | |
| Hake, dried..... Cwt. | 6,417 | 4 00 | 25,668 | |
| do sounds..... Lbs. | 7,479 | 1 00 | 7,479 | |
| Haddock, dried..... Cwt. | 8,415 | 4 00 | 33,660 | 315,483 |
| Halibut..... Lbs. | 41,512 | 0 10 | | 4,151 |
| Shad..... Lbs. | 756 | 9 00 | | 6,804 |
| Bass..... Brls. | 9,075 | 0 06 | | 545 |
| Trout..... Lbs. | 51,370 | 0 10 | | 5,137 |
| Squid..... Brls. | 7,714 | 4 00 | | 30,856 |
| Smelts..... Lbs. | 188,000 | 0 06 | | 11,280 |
| Eels..... Brls. | 1,249 | 10 00 | | 12,490 |
| Oysters..... Brls. | 792 | 3 00 | | 2,376 |
| Lobsters..... Cans. | 3,273,779 | 0 12 | | 392,854 |
| Fish Oil..... Galls. | 49,691 | 0 40 | | 19,876 |
| do Guano..... Tons. | | | | |
| do used as bait..... Brls. | 13,148 | 1 50 | | 19,723 |
| do as manure..... Brls. | 1,020 | 0 50 | | 510 |
| Fresh fish sold in Halifax markets..... | | | | 36,800 |
| Live Lobsters shipped to United States..... | | | | 500 |
| Total..... | | | | 1,453,015 |

COMPARATIVE STATEMENT of Value of Fisheries in each County of District No. 2, Nova Scotia, for the Years 1889 and 1890.

| Counties. | 1889. | 1890. | Increase. | Decrease. |
|------------------|-----------|-----------|-----------|-----------|
| | \$ | \$ | \$ | \$ |
| Antigonish..... | 101,773 | 81,720 | | 20,053 |
| Colchester..... | 9,212 | 10,206 | 994 | |
| Cumberland..... | 54,121 | 48,115 | | 6,006 |
| Guysborough..... | 404,173 | 457,682 | 53,509 | |
| Halifax..... | 640,922 | 728,246 | 87,324 | |
| Hants..... | 12,378 | 6,870 | | 5,508 |
| Pictou..... | 145,576 | 120,176 | | 25,400 |
| Total..... | 1,368,155 | 1,453,015 | 141,827 | 56,967 |
| | | 1,368,155 | 56,967 | |
| Increase..... | | 84,860 | 84,860 | |

Percentage of increase 6.2.

COMPARATIVE STATEMENT of Increase and Decrease of the Several Products of the Fisheries in District No. 2, Nova Scotia, for the Years 1889 and 1890.

| Kinds of Products. | Increase. | Decrease. |
|------------------------------|-------------|-----------|
| Salmon, pickled | Brls. | 311 |
| do fresh, in ice | Lbs. | 109,917 |
| do smoked | Lbs. | 4,639 |
| do preserved, in cans | Lbs. | 214 |
| Mackerel, pickled | Brls. | 3,388 |
| do preserved in cans | Lbs. | 35,240 |
| Herring, pickled | Brls. | 2,405 |
| do smoked | Boxes | 275 |
| Alewives, pickled | Brls. | 2,174 |
| Cod, dried | Cwt. | 16,672 |
| Cod Tongues and Sounds | Brls. | 156 |
| Pollock, dried | Cwt. | 51 |
| Hake, dried | Cwt. | 8,228 |
| Hake Sounds | Lbs. | 4,469 |
| Haddock, dried | Cwt. | 3,061 |
| Halibut | Lbs. | 77,474 |
| Shad | Brls. | 221 |
| Bass | Lbs. | 22,564 |
| Trout | Lbs. | 7,178 |
| Squid | Brls. | 4,176 |
| Smelts | Lbs. | 53,535 |
| Eels | Brls. | 179 |
| Oysters | Brls. | 299 |
| Lobsters | Cans. | 105,394 |
| Fish Oil | Galls. | 4,957 |
| do Guano | Tons. | 200 |
| do used as bait | Brls. | 1,337 |
| do used as manure | Brls. | 3,033 |

TABLE showing the Number and Value of Vessels, Boats, Nets and Weirs, engaged in the Fisheries of District No. 2, Nova Scotia, and Approximates of other Material not included in the Returns.

| Articles. | Value. | Total. |
|--|---------|----------------|
| | \$ | \$ |
| 110 vessels, 2,574 tons... | 77,510 | |
| 5,592 boats | 130,027 | |
| 1,368,167 square fathoms of nets | 302,552 | |
| 14 weirs | 3,325 | |
| | | 513,414 |
| Canning establishments | 148,000 | |
| Lobster traps and nets | 94,328 | |
| Ice houses for bait | 20,000 | |
| 4,418 seines (not included in above) | 117,920 | |
| | | 380,248 |
| Total | | 893,662 |

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in
and the Total Number of Men Employed, &c., in the

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | | |
|------------------------------------|--|----------|--------|--------|-----|--------|-------------------|----------|--------|-----|-----------------------------|--------------------|-------------------|-----------------------------|
| | Vessels. | | | Boats. | | | Nets. | | Weirs. | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Herring, barrels. | Herrings, smoked, in boxes. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. |  |  |  |  | Value. |
| <i>Annapolis Co.</i> | | | \$ | | \$ | | | \$ | | \$ | | | | |
| Margaretville | 4 | 59 | 1770 | 16 | 14 | 920 | 28 | 2100 | 1050 | | | 100 | 150 | 420 |
| Port George. | | | | | 14 | 280 | 20 | 1400 | 700 | 2 | 300 | 2300 | 20 | 20 |
| Port Lorne and Hampton. | 1 | 16 | 480 | 3 | 26 | 520 | 40 | 4000 | 2000 | | | | 100 | |
| Phinney's Cove. | | | | | 12 | 240 | 14 | 1200 | 600 | | | | 192 | |
| Parker's and Young's Cove. | | | | | 34 | 680 | 51 | 2000 | 1000 | | | | 110 | |
| Litchfield and Hillsboro. | 1 | 76 | 2280 | 14 | 19 | 380 | 46 | 1140 | 570 | | | | 40 | |
| Thorne's Cove and Gut. | 4 | 155 | 4650 | 30 | 45 | 900 | 70 | 2700 | 1350 | | | | 10 | |
| Thorne's Cove to Ferry. | | | | | 10 | 175 | 14 | | | 3 | 300 | | | 2600 |
| South side Basin. | 2 | 30 | 900 | 6 | 23 | 540 | 45 | 500 | 250 | 5 | 1200 | | 40 | 5 |
| East side Basin. | | | | | | | | | | | | 2000 | | |
| Lequille River. | | | | | | | | | | | | 450 | | |
| Round Hill River. | | | | | | | | | | | | 340 | | |
| Inland Lakes. | | | | | | | | | | | | | | |
| Totals. | 12 | 336 | 10080 | 69 | 197 | 4635 | 328 | 15040 | 7520 | 10 | 1800 | 5190 | 60 | 627 |
| | | | | | | | | | | | | | | 6020 |

District No. 3.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of Nova Scotia, for the Year 1890.

| KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | |
|--------------------|-----------|-------------------------------|---------------|------------|---------------|---------------|----------------|------------|-------------|----------------|--------------------|-------------------|-------------------|--------|-----------------------------|
| Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, brls. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bass, lbs. | Trout, lbs. | Eels, barrels. | Fish Oil, gallons. | Hake Sounds, lbs. | Fish Guano, tons. | | Fish used as Bait, barrels. |
| 179 | 4 | 127 | | | 44 | 2700 | | | | | 120 | | 25 | 500 | 4,108 00 |
| 60 | 1 | 25 | | | 15 | 800 | | | | | 55 | | 5 | 265 | 1,924 50 |
| 310 | 5 | 160 | | 160 | | 3500 | | | | | 140 | | 27 | 400 | 4,921 00 |
| 76 | | | | 20 | 38 | 250 | | | | | | | 4 | 262 | 1,862 00 |
| 300 | 5 | 80 | | 160 | 105 | 700 | | | | | 200 | | 20 | 410 | 4,535 00 |
| 460 | 7 | 108 | | 490 | 980 | 2000 | | | | | 500 | 800 | 38 | 340 | 11,422 00 |
| 2100 | 10 | 600 | | 280 | 2460 | 15000 | | | | | 700 | 260 | 40 | 1010 | 26,855 00 |
| 20 | | 6 | | | 25 | | | | | | | 70 | | 10 | 939 00 |
| 400 | 3 | 125 | | 40 | 314 | 5000 | | | | | 200 | | 10 | 220 | 6,176 00 |
| 40 | | | | | | | 20 | 2000 | 900 | 10 | | | | | 1,090 00 |
| 60 | | | | | | | | | 300 | 7 | | | | | 460 00 |
| | | | | | | | | 500 | | 6 | | | | | 158 00 |
| | | | | | | | | | 8000 | 10 | | | | | 900 00 |
| 100 | 3905 | 35 | 1231 | 1150 | 3981 | 29950 | 20 | 2500 | 9200 | 33 | 1915 | 1130 | 169 | 3417 | 65,350 50 |

Lobsters sold alive, 52,600, at 4 cts. 2,104 00

67,454 50

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. |
|--------------------------------------|--|----------|--------|------|--------|--------|-------------------|--------|--------|--------|-----------------------------|--------------------|
| | Vessels. | | | | Boats. | | Nets. | | Weirs. | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | | |
| <i>Digby Co.</i> | | | £ | | £ | | | £ | | £ | | |
| Digby | 9 | 330 | 7200 | 65 | 5 | 125 | 10 | 375 | 150 | | | 300 |
| Broad Cove | | | | | 6 | 150 | 13 | 360 | 180 | | | |
| Gulliver's and Shelving Coves | | | | | 9 | 180 | 18 | 500 | 200 | 3 | 150 | 250 205 |
| Centreville | | | | | 9 | 225 | 18 | 575 | 230 | | | 150 200 |
| Sandy Cove | | | | | 5 | 100 | 10 | 300 | 150 | | | 100 200 |
| Mink Cove | | | | | 8 | 240 | 16 | 640 | 320 | 1 | 900 | 600 |
| Little River | | | | | 27 | 665 | 54 | 1620 | 810 | | | 300 |
| East Ferry | | | | | 6 | 120 | 12 | 480 | 240 | | | |
| Smith's Cove | | | | | | | | | | 11 | 550 | 200 |
| St. Mary's Bay | | | | | | | | | | 6 | 300 | 136 |
| Weymouth | | | | | 10 | 100 | 20 | | | 3 | 1500 | 1800 |
| White's Cove | | | | | 30 | 600 | 60 | 1200 | 600 | | | 1000 |
| Church Point | | | | | 16 | 320 | 32 | 400 | 200 | | | 50 |
| Meteghan | | | | | 12 | 240 | 24 | 240 | 120 | | | 120 |
| Salmon River and Cape St. Mary | | | | | 10 | 240 | 20 | 500 | 250 | | | |
| Westport | 23 | 460 | 18000 | 160 | 35 | 1000 | 105 | 14000 | 7000 | | | 1500 |
| Freeport | 12 | 260 | 9000 | 96 | 72 | 2500 | 216 | 11000 | 5500 | | | |
| Tiverton | 5 | 105 | 2600 | 32 | 35 | 1200 | 109 | 7000 | 3500 | | | |
| Totals | 49 | 1155 | 36800 | 353 | 295 | 8005 | 737 | 39190 | 19450 | 24 | 3400 | 500 6911 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. |
|--|-----------------------------|-----------|-------------------------------|---------------|------------|---------------|---------------|----------------|-----------------|-----------------|--------------------|-------------------|-----------------------------|-------------------------------|--------------|
| Herring, barrels. | Herrings, smoked, in boxes. | Cod, cwt. | Cod Tongues and Sounds, brls. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Squid, barrels. | Lobsters, cans. | Fish Oil, gallons. | Hake Sounds, lbs. | Fish used as Bait, barrels. | Fish used as Manure, barrels. | |
| | | 2040 | | 76 | 2420 | 1030 | 46000 | | | 26700 | 5150 | 800 | 1000 | 1000 | \$ cts. |
| | | 120 | | | 245 | 150 | | | | | 480 | 200 | 120 | 450 | 39,428 00 |
| 100 | | 1200 | | 155 | 254 | 150 | 500 | | 15 | | 500 | 360 | 100 | 500 | 2,857 00 |
| | | 625 | | 67 | 4284 | 2137 | | | | 200 | 840 | 1160 | 125 | 600 | 11,631 00 |
| | | 125 | | 100 | 228 | 180 | | | | | 800 | 370 | 250 | 300 | 33,489 50 |
| 150 | | 400 | | 200 | 406 | 320 | | | | | 800 | 640 | 200 | 700 | 6,767 00 |
| | | 180 | | 270 | 2193 | 1080 | 2700 | | | | 2430 | 1160 | 540 | 1200 | 16,514 00 |
| | | 180 | | | 125 | 120 | | | | | 450 | 80 | 150 | 75 | 23,204 00 |
| 3000 | | | | | | | | | 10 | | | | 300 | 250 | 2,222 50 |
| | | | | | | | | 5 | | | | | | | 4,365 00 |
| 200 | | | | | | | | | | | | | | | 6,590 00 |
| | | | | | | 1500 | | | | | | | 50 | 100 | 27,925 00 |
| | | | | | | 750 | | | | | | | 675 | 1000 | 22,512 50 |
| | | | | | | 120 | | | | | | | 320 | 550 | 4,506 00 |
| | | 600 | | | | 300 | | | | | 120 | | 60 | 50 | 4,843 00 |
| | | 200 | | | | | | | | | 500 | | 250 | 300 | 2,725 00 |
| 600 | | 28200 | 48 | 17400 | 19500 | 22700 | 72000 | | | | 38800 | 8240 | 4500 | 675 | 414,627 50 |
| 710 | | 18800 | 25 | 10700 | 15100 | 12300 | 38000 | | | | 21600 | 4920 | 2800 | 770 | 252,636 00 |
| 200 | | 3400 | 14 | 3150 | 2900 | 2800 | 13500 | | | | 5500 | 670 | 1100 | 280 | 55,950 00 |
| 1960 | 3000 | 56070 | 87 | 32118 | 47655 | 45637 | 172700 | 5 | 25 | 26900 | 77970 | 18600 | 12540 | 8800 | 932,791 00 |
| Live lobsters shipped to United States, 2,190 tons, at \$35..... | | | | | | | | | | | | | | | 76,650 00 |
| Fresh haddock sold abroad, 400,000 lbs., at 4c..... | | | | | | | | | | | | | | | 16,000 00 |
| Finnan haddies sold abroad, 150,000 lbs., at 8c..... | | | | | | | | | | | | | | | 12,000 00 |
| Total..... | | | | | | | | | | | | | | | 1,037,441 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | Salmon, fresh, in ice, lbs. | |
|-----------------------|---|----------|--------|------|--------|--------|-------------------|----------|--------|-----|-----------------------------|--------|
| | Vessels. | | | | Boats. | | Nets. | | Weirs. | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | | Value. |
| <i>King's Co.</i> | | | \$ | | | \$ | | | \$ | | \$ | |
| Avonport..... | | | | | 12 | 200 | 12 | 3000 | 1500 | 1 | 500 | 1000 |
| Aylesford..... | | | | | | | | | | | | 400 |
| Gaspereaux..... | | | | | | | | | | | | |
| Kentville..... | | | | | | | | | | | | |
| Bout Island..... | | | | | | | | 2200 | 600 | 1 | 600 | |
| Blomidon..... | 1 | 11 | 100 | 2 | 1 | 20 | 2 | 330 | 50 | 1 | 200 | |
| Baxter's Harbour..... | | | | | 15 | 300 | 30 | 1200 | 500 | 2 | 400 | 1200 |
| Black Rock..... | | | | | 6 | 120 | 12 | 360 | 180 | 4 | 800 | |
| Chipman Bank..... | 1 | 10 | 200 | 3 | 6 | 180 | 12 | 1480 | 350 | 2 | 400 | 1000 |
| Hall's Harbour..... | 3 | 35 | 1200 | 9 | 20 | 360 | 40 | 5440 | 1200 | 8 | 2000 | 6900 |
| Hunting Point..... | | | | | | | | 250 | 150 | 1 | 400 | 1500 |
| Harbourville..... | | | | | 6 | 100 | 12 | 200 | 100 | 6 | 1200 | 2000 |
| Kingsport..... | 2 | 24 | 250 | 6 | | | | | | | | |
| Long Island..... | | | | | | | | | | 1 | 300 | |
| Morden..... | | | | | | | | 500 | 250 | 3 | 500 | 950 |
| Pereau..... | | | | | | | | | | 1 | 150 | |
| Starr's Flats..... | | | | | | | | | | 3 | 1000 | |
| Scott's Bay..... | | | | | | | | 3080 | 750 | 2 | 1000 | |
| Totals | 7 | 80 | 1750 | 20 | 66 | 1280 | 120 | 18040 | 5630 | 36 | 9450 | 14950 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | FISH PRODUCTS. | | | VALUE. | |
|--------------------|-------------------|----------------------------|--------------------|-----------|---------------|---------------|---------------|----------------|-------------|--------------|----------------|------------------|------------------------------|--------|--------------------------------|
| Mackerel, barrels. | Herring, barrels. | Herring, smoked, in boxes. | Alewives, barrels. | Cod, cwt. | Pollock, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Fish oil, galls. | Fish, used as bait, barrels. | | Fish, used as manure, barrels. |
| | | | 900 | | | | | 12 | | | | | | | \$ cts. |
| | | | | | | | | | 800 | | | | | | 4,170 00 |
| | | | 900 | | | | | | 1000 | 5000 | 9 | | | | 280 00 |
| | | | | | | | | | | 1000 | | | | | 4,620 00 |
| | | | | | | | | | | | | | | | 60 00 |
| | | | | | | | | | | | | | | | 1,250 00 |
| 5 | 40 | 500 | | 18 | | 10 | | 125 | | | | | | | 577 00 |
| 15 | 320 | 1000 | | 320 | 90 | 250 | 1200 | 5 | | | | 50 | 10 | 40 | 5,035 00 |
| 30 | 495 | 1500 | | 140 | 26 | 30 | | | | | | 200 | 75 | 175 | 5,035 00 |
| 6 | 250 | | | 210 | 55 | 20 | | | | | | | 20 | 100 | 3,669 00 |
| 50 | 1000 | 360 | | 600 | 100 | 420 | | | | | | 90 | 25 | 100 | 2,553 50 |
| 4 | 150 | | | 40 | 25 | 40 | | | | | | 300 | 500 | 500 | 11,820 00 |
| 75 | 600 | 2500 | | 75 | 25 | | | | | | | | 75 | 90 | 1,537 50 |
| | | | | 60 | 15 | 15 | | | | | | | 50 | 300 | 5,175 00 |
| | | | | | | | | | | | | | 30 | | 405 00 |
| 25 | 336 | | | 20 | 10 | | | 65 | | | | | | | 650 00 |
| 7 | 20 | | | 8 | 4 | 9 | | 8 | | | | | 7 | | 2,039 50 |
| | | | | | | | | 150 | | | | | 5 | 20 | 366 50 |
| | | | | 10 | | | | 364 | | | | | | | 1,500 00 |
| | | 300 | | | | | | | | | | | | | 3,755 00 |
| 217 | 3211 | 6160 | 1800 | 1501 | 350 | 794 | 1200 | 729 | 1800 | 6000 | 9 | 640 | 797 | 1325 | 49,463 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | | | | |
|---|---|----------|--------|------|--------|--------|-------------------|----------|--------|--------|--------|-----------------------------|----------------------|--------------------|--------------------|-------------------|
| | Vessels. | | | | Boats. | | | Nets. | | Weirs. | | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | Value. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. |
| Lunenburg Co. | | | \$ | | | \$ | | | \$ | | \$ | | | | | |
| Chester | 3 | 139 | 2500 | 21 | 70 | 2605 | 94 | 27740 | 4315 | 9 | 3600 | 8000 | 300 | 2530 | 24000 | 317 |
| Martin's River | 3 | 257 | 10000 | 38 | 88 | 1465 | 63 | 15500 | 1420 | 2 | 800 | 1500 | 165 | 668 | | 245 |
| Fox Point | 1 | 39 | 2500 | 9 | 85 | 2130 | 129 | 70000 | 7305 | | | 455 | | 1135 | | 855 |
| Mill Cove | 1 | 21 | 400 | 3 | 73 | 1670 | 89 | 59000 | 6250 | | | 500 | | 1245 | | 750 |
| Lodge | | | | | 22 | 350 | 28 | 25500 | 1750 | | | 325 | | 345 | | 290 |
| N.W. Cove | | | | | 49 | 1790 | 55 | 39500 | 4050 | | | 770 | | 1485 | | 765 |
| Aspotogan | 1 | 11 | 200 | 3 | 27 | 810 | 29 | 18000 | 1300 | | | 245 | | 830 | | 450 |
| Sandy Beach | | | | | 41 | 995 | 46 | 39000 | 3250 | | | 360 | | 660 | | 730 |
| Blandford | | | | | 85 | 2170 | 86 | 78000 | 5870 | 1 | 400 | 485 | 50 | 2470 | | 1734 |
| Little Tancook | | | | | 36 | 1740 | 34 | 47500 | 4470 | | | 155 | | 590 | | 505 |
| Big Tancook | | | | | 169 | 7557 | 166 | 143800 | 15470 | | | 620 | | 2265 | | 4745 |
| Deep Cove | | | | | 27 | 640 | 35 | 24500 | 2800 | 1 | 400 | 310 | | 740 | | 275 |
| Lunenburg to Cross Island | 81 | 7250 | 462000 | 1160 | 118 | 5432 | 138 | 19706 | 5088 | | | | | 700 | | 1318 |
| Mahone Bay and Indian Point Is- lands | 19 | 1483 | 90000 | 219 | 20 | 900 | 30 | 2500 | 1050 | | | | | 403 | | 1164 |
| E. S. La Have to New Dublin | 59 | 4700 | 295000 | 830 | 440 | 9680 | 340 | 40700 | 18000 | | | 60 | 40 | 1500 | | 5000 |
| Petite Rivière to E. Port Medway | 9 | 650 | 45000 | 117 | 210 | 5500 | 185 | 30000 | 10500 | | | 40 | 35 | 1100 | | 4500 |
| Totals .. | 177 | 14550 | 907600 | 2400 | 1540 | 45434 | 1547 | 680946 | 92378 | 13 | 5200 | 13825 | 590 | 18666 | 24000 | 23643 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | | |
|---------------------------------|-----------|-------------------------------|------|---------------|------------|---------------|---------------|----------------|-------------|-----------------|--------------|----------------|-----------------|--------------------|-------------------|-----------------------------|-------------------------------|--------|-----------|------|
| Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, brls. | | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, gallons. | Hake Sounds, lbs. | Fish used as bait, barrels. | Fish used as manure, barrels. | | | |
| | | | | | | | | | | | | | | | | | | | \$ | cts. |
| 198 | 1127 | 8 | 155 | 150 | | 25 | 1000 | | 480 | 52 | 700 | 9 | 90000 | 652 | 150 | 130 | 36 | | 63,186 | 80 |
| 46 | 1039 | 16 | 28 | | | | 1100 | | 300 | 36 | 875 | 15 | | 400 | | 220 | 36 | | 16,962 | 50 |
| 24 | 817 | 8 | | 600 | | | | | 136 | | 220 | 2 | | 617 | 500 | 117 | 31 | | 27,376 | 60 |
| 6 | 247 | | 28 | 38 | | 31 | | | 60 | 3 | 150 | 1 | | 94 | | 19 | 25 | | 23,293 | 60 |
| 7 | 290 | | 42 | 42 | | | | | | 1 | | | | 40 | 14 | 4 | 3 | | 7,969 | 00 |
| 7 | 207 | 2 | 42 | 30 | | | | | | 3 | | 2 | | 140 | 7 | 34 | 57 | | 26,831 | 00 |
| 10 | 144 | 1 | 58 | 11 | | | 105 | | 95 | 1 | | | 35000 | 88 | | 11 | 8 | | 19,485 | 70 |
| 17 | 217 | 1 | 58 | | | | 175 | | | 2 | | 3 | | 203 | | 21 | 15 | | 14,254 | 20 |
| 22 | 497 | 3 | 168 | | | 247 | 200 | | | 28 | | 6 | | 239 | | 72 | 25 | | 48,278 | 10 |
| 12 | 400 | | 30 | 16 | | 290 | 200 | | | 8 | | | | 200 | 6 | 63 | 56 | | 14,159 | 50 |
| 16 | 1537 | 8 | 48 | 81 | | 151 | 270 | | | 6 | | 2 | 40000 | 387 | 50 | 108 | 147 | | 65,810 | 30 |
| 35 | 37 | | 17 | 50 | | | | | 58 | 7 | 345 | 11 | | 148 | 57 | 28 | 27 | | 13,171 | 70 |
| 15 | 122622 | 200 | 200 | | | 8798 | 65300 | | | 15 | | 4 | 50000 | 25260 | | 161 | 573 | | 567,581 | 50 |
| 18 | 11491 | 50 | | | | 296 | 14780 | | | 5 | | | | 5700 | | 30 | 95 | | 62,300 | 50 |
| 100 | 46300 | 150 | 120 | 500 | 4360 | 55000 | 5 | | | 220 | 500 | 60 | 20000 | 3000 | | 400 | 1719 | | 261,709 | 50 |
| 75 | 8085 | 22 | 5500 | 60 | 250 | 30000 | 6 | | | 75 | 2000 | 15 | 21600 | | | 150 | 860 | | 97,529 | 50 |
| 608 | 195067 | 469 | 6494 | 1578 | 14448 | 168130 | 11 | 1109 | 462 | 4790 | 130 | 256600 | 37168 | 784 | 1568 | 3713 | | | 1,329,900 | 00 |
| Scallops, 600 dozen at 50c..... | | | | | | | | | | | | | | | | | | | 300 | 00 |
| Clams, cans, 6,000 at 12c..... | | | | | | | | | | | | | | | | | | | 720 | 00 |
| Grand total..... | | | | | | | | | | | | | | | | | | | 1,330,920 | 00 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | |
|------------------------|--|----------|--------|------|--------|--------|----------------------|--------|-----------------------------|----------------------|--------------------|-------------------|
| | Vessels. | | | | Boats. | | Nets. | | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Mackerel, barrels. | Herring, barrels. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | | | | |
| <i>Queen's County.</i> | | | \$ | | | \$ | | \$ | | | | |
| Liverpool | 2 | 106 | 4500 | 20 | 23 | 340 | 32 | 1100 | 500 | 2272 | 400 | 137 |
| Port Mouton | | | | | 54 | 1570 | 80 | 6000 | 1800 | | | 1780 |
| Brooklyn | 4 | 102 | 4500 | 27 | 21 | 481 | 37 | 1100 | 440 | 600 | 63 | 197 |
| Port Joli | | | | | 25 | 700 | 30 | 120 | 60 | | | 40 |
| Port Hébert | 1 | 15 | 100 | 5 | 8 | 125 | 8 | 150 | 45 | | | 20 |
| Somerville | | | | | | 70 | 8 | 280 | 112 | | | 80 |
| Hunt's Point | | | | | 14 | 900 | 40 | 4800 | 1120 | | 10 | 350 |
| White Point | | | | | 10 | 130 | 20 | 2000 | 1000 | | | 400 |
| Beach Meadow | | | | | 6 | 90 | 6 | 250 | 120 | 200 | | 70 |
| Coffin Island | | | | | 15 | 300 | 25 | 1000 | 400 | | | 266 |
| Eagle Head | | | | | 10 | 300 | 15 | 360 | 180 | 350 | 5 | 60 |
| West Berlin | | | | | 19 | 240 | 19 | 1200 | 350 | 50 | 13 | 180 |
| East Berlin | | | | | 20 | 240 | 20 | 1000 | 500 | 140 | | 120 |
| West Head | | | | | 46 | 920 | 64 | 2800 | 700 | | 60 | 880 |
| Moose Harbour | | | | | 8 | 100 | 14 | 900 | 400 | | 10 | 295 |
| Black Point | | | | | 4 | 45 | 4 | 260 | 130 | | | 70 |
| Milton | | | | | 10 | 100 | 10 | 75 | 40 | 2556 | | |
| Gull Island | | | | | 7 | 110 | 10 | 600 | 240 | | | 100 |
| East Head | | | | | 10 | 160 | 10 | 350 | 186 | 200 | | 120 |
| Long Cove | | | | | 5 | 85 | 5 | 240 | 100 | 250 | 5 | 35 |
| Mill Village | | | | | 52 | 392 | 48 | 1800 | 630 | 3775 | 250 | |
| Port Medway | 8 | 681 | 28200 | 110 | 86 | 2000 | 92 | 8800 | 1900 | 7000 | 356 | 587 |
| Ponhook | | | | | 8 | 88 | 35 | 166 | 110 | 1000 | | |
| Totals | 15 | 904 | 37300 | 162 | 468 | 9486 | 632 | 35351 | 11013 | 18393 | 250 | 922 |
| | | | | | | | | | | | | 5787 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. |
|---|-----------|-------------------------------|---------------|-------------------|---------------|---------------|----------------|-------------|-----------------|--------------|----------------|-----------------|--------------------|-----------------------------|------------|
| Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, brls. | Pollock, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | |
| 12 | 94 | | | | 7 | 1600 | | | | | | | 285 | 50 | \$ cts. |
| | 1025 | | | | 120 | 600 | | | | | | | 570 | 150 | 7,809 40 |
| 25 | 1080 | | | 285 | 60 | 700 | | | | | | 40176 | 513 | 200 | 17,034 12 |
| | 520 | | | | | | | | | | | | 260 | | 8,240 70 |
| | 170 | | | | | | | | | | 10 | | 85 | | 2,444 00 |
| | 100 | | | | 10 | | | | | | | | 60 | 30 | 784 00 |
| | 550 | | | | 30 | 1000 | | | | | | | 300 | 100 | 829 00 |
| | 340 | | | | 30 | 500 | | | | | | | 190 | 150 | 4,240 00 |
| | 20 | | | | 5 | | | | | | | | 13 | 10 | 3,431 00 |
| | 333 | | | 200 | 80 | 500 | | | | | | 31200 | 307 | 100 | 440 20 |
| | 50 | | | | 10 | | | | | | | | 30 | 16 | 7,582 80 |
| 2 | 120 | | 12 | | 20 | 150 | | | | | | | 70 | 40 | 661 00 |
| | 250 | | | | 30 | | | | | | | | 160 | 350 | 1,648 00 |
| | 926 | | 10 | | 208 | 550 | | | | | | | 560 | 50 | 2,217 00 |
| | 120 | | | | 15 | | | | | | | | 70 | 40 | 9,350 00 |
| | 126 | | | | 15 | | | | | | | 23000 | 70 | 35 | 1,958 00 |
| 60 | | | | | | | | | | | | | | | 3,680 50 |
| | 175 | | | | 25 | | | | | | | | 100 | 25 | 781 20 |
| | 70 | | | | 6 | 60 | | | | | | | 35 | 15 | 1,277 50 |
| 25 | 95 | | | | 11 | | | | | | | | 50 | 20 | 866 50 |
| 2040 | | | | | | | 26 | 1800 | | 17300 | 11 | | | | 851 50 |
| 1300 | 9816 | 15 | 30 | 400 | 160 | 5400 | 12 | 250 | 20 | 7200 | 19 | 41039 | 5875 | 320 | 11,573 00 |
| 515 | | | | | | | | 2500 | | | 5 | | | | 65,853 68 |
| 3979 | 15979 | 15 | 52 | 885 | 842 | 11060 | 38 | 4550 | 20 | 24500 | 45 | 135415 | 9603 | 1701 | 2,817 50 |
| Lobsters exported alive, 135,500, at 4c | | | | | | | | | | | | | | | 5,420 00 |
| Clams, 80 barrels, at \$7 | | | | | | | | | | | | | | | 560 00 |
| | | | | | | | | | | | | | | | 162,357 60 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | Salmon, fresh, in ice, lbs. | |
|---|---|----------|--------|------|--------|--------|-------------------|----------|--------|-----|-----------------------------|--------|
| | Vessels. | | | | Boats. | | Nets. | | Weirs. | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | | Value. |
| <i>Shelburne Co.</i> | | | \$ | | | \$ | | | \$ | | \$ | |
| Barrington | 4 | 192 | 5900 | 45 | 44 | 1080 | 44 | 11675 | 1000 | | | 500 |
| Wood's Harbour | 7 | 138 | 4450 | 53 | 100 | 1900 | 98 | 19000 | 1625 | 1 | 1600 | |
| Shag Harbour | 3 | 69 | 1500 | 23 | 35 | 800 | 33 | 16000 | 1300 | | | |
| Bear Point | 1 | 13 | 325 | 5 | 55 | 1000 | 30 | 9600 | 900 | | | |
| Cape Island | 7 | 285 | 8900 | 66 | 340 | 6550 | 390 | 36000 | 4075 | 7 | 10250 | |
| Port Latour and Baccaro | 3 | 115 | 5500 | 21 | 200 | 2800 | 112 | 52000 | 5000 | | | |
| Upper Port Latour | 1 | 11 | 450 | 5 | 38 | 360 | 30 | 5170 | 595 | | | |
| Cape Negro and Blanche | | | | | 65 | 700 | 61 | 11700 | 750 | | | |
| Cape Negro Island | | | | | 47 | 900 | 50 | 5600 | 850 | 1 | 1000 | |
| Port Clyde | | | | | 3 | 20 | 3 | 400 | 24 | | | 2000 |
| North-East Harbour and East Clyde. | 2 | 38 | 1300 | 13 | 9 | 855 | 18 | 6300 | 900 | | | 500 |
| Black Point, Red Head and Round Bay | | | | | 40 | 2900 | 82 | 16000 | 1350 | | | |
| Roseway and McNutt's Island | | | | | 43 | 3000 | 80 | 15750 | 1600 | | | |
| Churchover, Gunning and Birchtown. | | | | | 36 | 1550 | 60 | 5000 | 500 | | | 150 |
| Shelburne and Sand Point | 5 | 409 | 17000 | 82 | 50 | 1100 | 80 | 18750 | 2000 | | | 350 |
| Jordan Bay | 4 | 219 | 10900 | 50 | 25 | 1250 | 38 | 7500 | 700 | | | |
| Jordan Ferry | | | | | 29 | 1200 | 45 | 5000 | 500 | | | 100 |
| Lockeport | 22 | 1350 | 70000 | 280 | 40 | 2400 | 75 | 8000 | 2000 | | | 200 |
| Totals | 59 | 2839 | 126225 | 643 | 1199 | 30365 | 1329 | 249445 | 25669 | 9 | 12850 | 3800 |

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | FISH PRODUCTS. | | VALU. |
|---|--------------------|-------------------|--------------------|-----------|---------------|---------------|---------------|-------------|-----------------|--------------|----------------|-----------------|--------------------|-----------------------------|------------|
| Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Alewives, barrels. | Cod, cwt. | Pollock, cwt. | Haddock, cwt. | Halibut, lbs. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | |
| | | | | | | | | | | | | | | | \$ cts. |
| 25 | | 100 | 650 | 2490 | 130 | 350 | 2000 | 500 | | | 55 | | 1600 | 1800 | 19,920 00 |
| 212 | | 500 | | 600 | 20 | 88 | 8000 | | | | | 100272 | 400 | 3300 | 25,954 64 |
| 130 | | 200 | | 810 | 100 | 225 | 6000 | | | | | | 300 | 310 | 8,475 00 |
| | 2880 | 137 | | 246 | 35 | 100 | 1000 | | | | | 54096 | 95 | 350 | 9,658 52 |
| 1231 | | 1048 | | 12500 | 230 | 2850 | 78700 | | 40 | | | 25000 | 5000 | 5200 | 105,707 00 |
| 12 | | 500 | | 3562 | 3500 | 1072 | 3000 | | | | | | 5857 | 1340 | 39,368 80 |
| | | 30 | | 1266 | 300 | 325 | 2000 | | | | 25 | | 1060 | 375 | 9,120 50 |
| | | 125 | | 1050 | 40 | 150 | 3000 | | | | | | 700 | 390 | 6,625 00 |
| 125 | | 1000 | | 2800 | 275 | 875 | 3300 | | | | | | 2700 | 600 | 23,985 00 |
| | | | 350 | 16 | | | | | | | | | | | 2,039 00 |
| 33 | | 95 | 25 | 830 | | 128 | | | | | 10 | | 290 | 20 | 5,165 50 |
| 18 | | 780 | | 836 | 22 | 826 | | | | | | | 705 | | 10,408 00 |
| 28 | | 602 | 25 | 760 | 140 | 731 | | | | | | 7680 | 805 | | 10,708 10 |
| 35 | | 1238 | 75 | 485 | 87 | 365 | | | | | | | 392 | 40 | 9,809 30 |
| 67 | | 1550 | 100 | 7239 | 12 | 291 | | 4000 | | | | 25000 | 2870 | 150 | 42,666 00 |
| 15 | | 535 | | 4244 | 30 | 515 | | | | | | 28608 | 1463 | | 25,539 16 |
| 92 | | 500 | | 366 | 8 | 229 | | | | 5000 | | | 80 | | 6,144 00 |
| 150 | | 2200 | 45 | 23000 | 100 | 1000 | 40000 | 1500 | | | | | 8000 | | 115,042 50 |
| 2173 | 2880 | 11140 | 1270 | 63100 | 5029 | 10120 | 147000 | 6000 | 40 | 5000 | 90 | 240656 | 32317 | 13875 | 476,336 02 |
| Lobsters, sold and exported alive, 1,914,300, at 4c | | | | | | | | | | | | | | | 76,572 00 |
| Mackerel, exported fresh, 770,900, at 6c | | | | | | | | | | | | | | | 46,254 00 |
| Herrings, canned, 6,336 lbs., at 10c | | | | | | | | | | | | | | | 633 60 |
| | | | | | | | | | | | | | | | 599,795 62 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

| DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. |
|------------------------------|---|----------|--------|------|--------|--------|-------------------|--------|--------|--------|-----------------------------|--------------------|--------------------|-------------------|
| | Vessels. | | | | Boats. | | Nets. | | Weirs. | | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | | | | |
| <i>Yarmouth Co.</i> | | | * | | | * | | * | | * | | | | |
| Arcadia and Little River... | 2 | 30 | 900 | 6 | 50 | 750 | 100 | 3000 | 900 | . | ... | 50 | ... | 150 |
| Tusket Wedge | 9 | 607 | 20000 | 136 | 50 | 750 | 100 | 3000 | 900 | 1 | 200 | 450 | ... | 150 |
| Salmon River | | | | | 80 | 1100 | 50 | 5000 | 1500 | ... | ... | 300 | ... | ... |
| Tusket | 3 | 21 | 690 | 18 | 160 | 1920 | 190 | 20000 | 6000 | 1 | 200 | 850 | ... | ... |
| East and West Branches | | | | | 70 | 840 | 100 | 4000 | 1200 | ... | 800 | ... | ... | ... |
| Eel Lake and Brook..... | 1 | 35 | 850 | 4 | 50 | 600 | 100 | 3000 | 900 | . | ... | 50 | ... | ... |
| Argyle | 4 | 126 | 3700 | 15 | 27 | 405 | 54 | 180 | 54 | 1 | 300 | 555 | 7000 | 30 |
| West Pubnico..... | 12 | 812 | 36600 | 216 | 35 | 520 | 70 | 2000 | 600 | *1 | 2000 | 650 | ... | ... |
| East Pubnico | 7 | 619 | 29200 | 126 | 7 | 98 | 14 | 960 | 288 | 1 | 300 | 928 | ... | 30 |
| Yarmouth..... | 16 | 1210 | 46000 | 546 | 13 | 156 | 26 | 1700 | 510 | *4 | 8000 | 1805 | ... | 430 |
| Maitland | 7 | 64 | 1700 | 24 | 15 | 225 | 20 | 1600 | 480 | *1 | 2000 | 1560 | ... | 200 |
| Sandford | 4 | 115 | 4600 | 30 | 25 | 350 | 50 | 3000 | 900 | *2 | 4000 | 225 | ... | 500 |
| Totals | 65 | 3639 | 144240 | 1121 | 582 | 7714 | 874 | 47440 | 14232 | 12 | 17000 | 3250 | 6573 | 1490 |

*Traps

the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Con.

| KINDS OF FISH. | | | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. | | | |
|---|-----------|-------------------------------|---------------|------------|---------------|---------------|----------------|-------------|-----------------|--------------|----------------|-----------------|------------------|-------------------|-------------------|-------------|-----------------------------|-------------------------------|--|
| Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, brls. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Trout, lbs. | Squid, barrels. | Smelts, lbs. | Eels, barrels. | Lobsters, cans. | Fish Oil, galls. | Hake Sounds, lbs. | Fish Guano, tons. | | Fish used as bait, barrels. | Fish used as manure, barrels. | |
| 30 | 200 | 20 | 20 | 50 | 2000 | | | | | 1000 | 7 | 90660 | | | | | 1500 | 14,524 20 | |
| 30 | 8250 | 25 | 194 | 20 | 419 | 12155 | | | | | | | 3500 | 10 | | 200 | | 46,192 50 | |
| 1540 | | | | | | | | 400 | | 5000 | 10 | | | | | | | 12,040 00 | |
| 2550 | 200 | | | | 40 | 300 20 | 15 | 500 | | 40000 | 40 | | 12 | | | | | 15,839 80 | |
| 850 | | | | | | | | 1200 | | | | | | | | | | 4,255 00 | |
| 400 | 500 | | | 20 | | | | 750 | | 3000 | 250 | | | 30 | | | | 7,397 00 | |
| 40 | 2140 | 5 | 5 | | 500 | 500 | | | | 500 | | 4800 | | 200 | | 40 | 1000 | 21,601 00 | |
| | 8753 | | 1500 | | 36 | 10200 | | | | | | | 3000 | | | 676 | | 54,140 00 | |
| 25 | 7700 | | 675 | | 750 | 9000 | | 200 | | | | | 3000 | | | 100 | | 53,702 50 | |
| | 10650 | | 1100 | 50 | 1550 | 7800 | | 800 | 100 | | | 54000 | 5400 | 50 | | 1250 | | 94,020 00 | |
| | 1500 | 5 | 400 | | 300 | 3000 | | | | | | | 500 | | 35 | 150 | | 35,000 00 | |
| | 1250 | | | | 300 | 32000 | | | 50 | | | | 150 | | | 150 | | 15,260 00 | |
| 5465 | 41143 | 35 | 3894 | 90 | 3945 | 76955 | 35 | 3650 | 350 | 49500 | 307 | 149460 | 15792 | 60 | 35 | 2566 | 2500 | 373,972 00 | |
| Live lobsters shipped to United States, 1,422 tons, at \$35 | | | | | | | | | | | | | | | | \$49,770 00 | | | |
| Finnan Haddies, 8,000 lbs., at 8c. | | | | | | | | | | | | | | | | 640 00 | | | |
| Smoked Alewives, 130,000, at 80c. per 100. | | | | | | | | | | | | | | | | 1,040 00 | | | |
| 51,450 00 | | | | | | | | | | | | | | | | | | | |
| 425,422 00 | | | | | | | | | | | | | | | | | | | |

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed in District No. 3 of the Province of Nova Scotia, for the Year 1890.

| COUNTIES. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | | | | | | |
|-----------------|--|----------|---------|--------|-------------------|----------|--------|---------|----------------|-------|-----------------------------|----------------------|--------------------|--------------------|-------------------|-----------------------------|--------------------|-----------|
| | Vessels. | | | Boats. | | Fathoms. | Nets. | | Weirs. | | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Herrings, smoked, in boxes. | Alewives, barrels. | Cod, cwt. |
| | No. | Tonnage. | Value. | Men. | No. | | Value. | Value. | No. | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| District No. 3. | | | | | | | | | | | | | | | | | | |
| Annapolis..... | 12 | 336 | 10080 | 69 | 197 | 4635 | 328 | 15040 | 7520 | 10 | 1800 | 5190 | 60 | 6020 | 627 | 6020 | 100 | 3905 |
| Digby..... | 49 | 1155 | 36800 | 353 | 295 | 8085 | 737 | 30190 | 19450 | 24 | 3400 | 500 | 6911 | 3000 | 1960 | 3000 | 1800 | 56070 |
| St. King's..... | 7 | 80 | 1750 | 20 | 66 | 1290 | 120 | 18040 | 5430 | 36 | 9450 | 14950 | 217 | 6160 | 3211 | 6160 | 1800 | 1501 |
| Lunenburg..... | 177 | 14550 | 997600 | 2400 | 1540 | 45434 | 1547 | 680946 | 92878 | 13 | 5200 | 13825 | 18666 | 24000 | 23643 | 608 | 195057 | |
| Queen's..... | 15 | 904 | 37300 | 162 | 468 | 9486 | 632 | 35351 | 11013 | ..... | ..... | 18393 | 922 | 922 | 5787 | 3979 | 15979 | |
| Shelburne..... | 59 | 2839 | 126225 | 643 | 1199 | 30365 | 1329 | 249445 | 25669 | 9 | 12850 | 3800 | 2173 | 2880 | 11140 | 1270 | 63100 | |
| Yarmouth..... | 65 | 3639 | 144240 | 1121 | 582 | 7714 | 874 | 47440 | 14232 | 12 | 17000 | 3250 | 6573 | 7000 | 1490 | 5465 | 41143 | |
| Totals..... | 384 | 23503 | 1263945 | 4768 | 4347 | 106399 | 5567 | 1085452 | 176392 | 104 | 49700 | 59908 | 840 | 35522 | 33880 | 47858 | 15180 | 376755 |

RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—Nova Scotia—Concluded.

| COUNTRIES. | KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | | VALUE. | | |
|--|----------------------------------|---------------|------------|---------------|---------------|----------------|-----------|------------|-----------------|--------------|-----------------|----------------|--------------------|-------------------|-------------------|--------|-----------------------------|-------------------------------|
| | Cod Tongues and Sounds, barrels. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bas, lbs. | Trou, lbs. | Squid, barrels. | Smelts, lbs. | Keels, barrels. | Lobster, cans. | Fish Oil, gallons. | Hake Sounds, lbs. | Fish Guano, tons. | | Fish used as Bait, barrels. | Fish used as Manure, barrels. |
| <i>District No. 3.</i> | | | | | | | | | | | | | | | | | | \$ cts. |
| Annapolis..... | 35 | 1231 | 1150 | 3981 | 29950 | 20 | 2500 | 9200 | 25 | 6000 | 33 | 20300 | 1915 | 1130 | 169 | 9417 | 8800 | 65,350 50 |
| Digby..... | 87 | 32118 | 47655 | 46637 | 172700 | 5 | 1800 | 1800 | 462 | 4790 | 9 | 20300 | 77970 | 18400 | 12540 | 12540 | 932,791 00 | |
| King's..... | 350 | 6494 | 1578 | 14448 | 1200 | 729 | 11 | 1109 | 20 | 24500 | 45 | 266000 | 640 | 784 | 797 | 1325 | 49,163 00 | |
| Lunenburg..... | 469 | 6494 | 1578 | 14448 | 168130 | 11 | 1109 | 4550 | 20 | 24500 | 45 | 135415 | 87168 | 784 | 1568 | 3713 | 1,323,900 00 | |
| Queen's..... | 15 | 52 | 885 | 842 | 11060 | 38 | 6000 | 6000 | 40 | 5000 | 90 | 240656 | 9603 | 1701 | 13375 | 2500 | 156,377 60 | |
| Shelburne..... | 5029 | 3894 | 90 | 3945 | 147000 | 35 | 3650 | 3650 | 350 | 49500 | 307 | 149460 | 32317 | 60 | 35 | 2566 | 476,338 02 | |
| Yarmouth..... | 35 | 3894 | 90 | 3945 | 76955 | 35 | 3650 | 3650 | 350 | 49500 | 307 | 149460 | 15792 | 60 | 35 | 2566 | 373,972 00 | |
| Totals..... | 641 | 49168 | 51358 | 79767 | 606995 | 838 | 2500 | 26309 | 897 | 80790 | 614 | 809931 | 175405 | 20574 | 204 | 36464 | 16338 | 3,384,190 12 |
| <p>Annapolis—Lobsters, alive, exported \$ 2,104 00</p> <p>Digby—Lobsters, alive, exported 104,650 00</p> <p>Haddock, fresh do 1,020 00</p> <p>Finnan Haddies do 5,980 00</p> <p>Lunenburg—Clams 123,459 60</p> <p>Scallops 51,450 00</p> <p>Queen's—Lobsters, alive, exported</p> <p>Shelburne—Lobsters, alive, exported</p> <p>Mackerel, fresh do</p> <p>Herrings, canned</p> <p>Yarmouth—Lobsters, alive, exported</p> <p>Alewives, smoked</p> <p>Finnan Haddies</p> | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 288,663 60 | |
| | | | | | | | | | | | | | | | | | 3,672,853 72 | |

RECAPITULATION

Of the Yield of the Fisheries for District No. 3, Nova Scotia, 1890.

| Kind of Products. | | Quantities. | Rate. | Value. |
|----------------------------------|--------|-------------|-------------|--------------|
| | | | \$ cts. | \$ cts. |
| Alewives, pickled..... | Brls. | 13,222 | 4 50 | 59,499 00 |
| do smoked..... | No. | 130,000 | 80c. p. 100 | 1,040 00 |
| Bass..... | Lbs. | 2,500 | 0 06 | 150 00 |
| Clams..... | Brls. | 80 | 7 00 | 560 00 |
| do..... | Cans. | 6,000 | 0 12 | 720 00 |
| Cod, dried..... | Cwt. | 376,755 | 4 00 | 1,507,020 00 |
| Eels..... | Brls. | 614 | 10 00 | 6,140 00 |
| Fish oil..... | Galls. | 175,405 | 0 40 | 70,162 00 |
| do guano..... | Tons. | 204 | 35 00 | 7,140 00 |
| do used as bait..... | Brls. | 36,464 | 1 50 | 54,696 00 |
| do used as manure..... | " | 16,338 | 0 50 | 8,169 00 |
| Haddock, dried..... | Cwt. | 79,767 | 4 00 | 319,068 00 |
| do fresh..... | Lbs. | 400,000 | 0 04 | 16,000 00 |
| do smoked..... | " | 158,000 | 0 08 | 12,640 00 |
| Hake, dried..... | Cwt. | 51,358 | 4 00 | 205,432 00 |
| do Sounds..... | Lbs. | 20,574 | 1 00 | 20,574 00 |
| Halibut..... | | 606,995 | 0 10 | 60,699 50 |
| Herring, pickled..... | Brls. | 47,858 | 4 00 | 191,432 00 |
| do smoked..... | Boxes | 15,180 | 0 25 | 3,795 00 |
| do preserved..... | Cans. | 6,336 | 0 10 | 633 60 |
| Lobsters, do..... | " | 809,031 | 0 12 | 97,083 72 |
| do shipped alive..... | Tons. | 3,612 | 35 00 | 126,420 00 |
| do do..... | No. | 2,102,400 | 0 04 | 84,096 00 |
| Mackerel, pickled and fresh..... | Brls. | 35,522 | 15 00 | 532,830 00 |
| do shipped fresh..... | No. | 770,900 | 0 06 | 46,254 00 |
| do preserved..... | Cans. | 33,880 | 0 15 | 5,082 00 |
| Pollock, dried..... | Cwt. | 49,168 | 4 00 | 196,672 00 |
| Salmon, sold fresh..... | Lbs. | 59,908 | 0 20 | 11,981 60 |
| do smoked..... | " | 840 | 0 20 | 168 00 |
| Scallops..... | Doz. | 600 | 0 50 | 300 00 |
| Shad..... | Brls. | 838 | 10 30 | 8,380 00 |
| Smelts..... | Lbs. | 89,790 | 0 06 | 5,387 40 |
| Squid..... | Brls. | 897 | 4 00 | 3,488 00 |
| Tongues and Sounds..... | " | 641 | 10 00 | 6,410 00 |
| Trout..... | Lbs. | 26,309 | 0 10 | 2,630 90 |
| Total..... | | | | 3,672,753 72 |

TABLE showing the Number and Value of Vessels and Boats, Nets and Weirs engaged in the Fisheries of District No. 3 of Nova Scotia, and an Approximate Estimate of other Material not included in the Returns.

| Articles. | \$ cts. | \$ cts. |
|--------------------------------|--------------|--------------|
| 384 vessels, 23,503 tons..... | 1,263,995 00 | |
| 4,347 boats..... | 106,999 00 | |
| 1,085,452 fathoms of nets..... | 176,392 00 | |
| 104 weirs..... | 49,700 00 | 1,597,086 00 |
| Canning establishments..... | 46,280 00 | |
| Seines..... | 15,700 00 | |
| Lobster traps..... | 36,000 00 | |
| Steamers and smacks..... | 11,200 00 | |
| Smoke houses, &c..... | 2,106 00 | |
| Total..... | | 111,286 00 |
| | | 1,708,372 00 |

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in the Whole Province of Nova Scotia, for the Year 1890.

| COUNTRIES. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | | | | | | | | |
|------------------|--|----------|---------|------|-------------------|--------|--------|----------|----------------|-----------------------------|----------------------|-----------------------|-----------------|--------------------|----------------|----------------------------|-----------------|--------|-------|--------|
| | Vessels. | | Boats. | | Nets. | | Weirs. | | Salmon, brls. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Salmon, in cans, lbs. | Mackerel, brls. | Mackerel, in cans. | Herring, brls. | Herring, smoked, in boxes. | Alewives, brls. | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | | | | | | | | | | Value. | No. | Value. |
| Cape Breton..... | 11 | 160 | 2190 | 40 | 625 | 23126 | 1375 | 61790 | 26767 | * | * | 18 | 11568 | 150 | 2000 | 1205 | 7269 | 120 | 301 | |
| Inverness..... | 17 | 679 | 19000 | 133 | 866 | 21515 | 2347 | 110268 | 46337 | ... | ... | 42 | 69346 | ... | 4036 | 5614 | 49300 | 9743 | 1226 | |
| Richmond..... | 75 | 4161 | 49950 | 744 | 1276 | 17915 | 2308 | 431800 | 166222 | ... | ... | 22 | ... | ... | ... | 3382 | 5300 | 13278 | 1992 | |
| Victoria..... | 987 | 20844 | 3034 | 3034 | 987 | 20844 | 3034 | 72837 | 44190 | ... | ... | 259 | ... | ... | ... | 1647 | 7482 | ... | 561 | |
| Antigonish..... | 240 | 6700 | 516 | 516 | 240 | 6700 | 516 | 124500 | 48000 | ... | ... | ... | 33000 | ... | ... | 677 | ... | 246 | 365 | |
| Colchester..... | 66 | 1698 | 125 | 125 | 66 | 1698 | 125 | 10935 | 2377 | 10 | 3125 | ... | 12954 | ... | ... | ... | 109 | 1860 | 20 | |
| Cumberland..... | 2 | 60 | 2000 | 7 | 125 | 26389 | 199 | 3309 | 2484 | 3 | 80 | ... | 6200 | ... | ... | 34 | 550 | 852 | 832 | |
| Guyaboro'..... | 17 | 446 | 11900 | 95 | 2654 | 42365 | 2611 | 277240 | 120877 | ... | ... | 1 | 23470 | 1110 | 2006 | 7817 | 26208 | 8901 | 2284 | |
| Halifax..... | 91 | 2068 | 63610 | 609 | 2865 | 73259 | 2919 | 939455 | 118796 | ... | ... | 1700 | 15801 | 792 | ... | 11532 | 6720 | 29284 | 798 | |
| Hants..... | 131 | 1678 | 141 | 141 | 131 | 1678 | 141 | 5464 | 3454 | 1 | 120 | ... | 4655 | ... | ... | ... | 51 | ... | 769 | |
| Pictou..... | 102 | 1698 | 146 | 146 | 102 | 1698 | 146 | 7264 | 6964 | ... | ... | ... | 50730 | ... | ... | 79 | 1292 | ... | 58 | |
| Annapolis..... | 12 | 336 | 10080 | 69 | 197 | 4635 | 328 | 15040 | 7520 | 10 | 1800 | ... | 5190 | ... | ... | 60 | 627 | 6020 | 100 | |
| Digby..... | 49 | 1155 | 36800 | 353 | 295 | 8085 | 737 | 39190 | 19450 | 24 | 3400 | ... | 500 | ... | ... | 6911 | 1960 | 3000 | ... | |
| King's..... | 7 | 80 | 1750 | 20 | 66 | 1280 | 120 | 18040 | 92878 | 36 | 9450 | ... | 14950 | ... | ... | 217 | ... | 6160 | 1800 | |
| Lunenburg..... | 177 | 14550 | 907000 | 2400 | 1540 | 45434 | 1547 | 680946 | 92878 | 13 | 5200 | ... | 13825 | 590 | ... | 18466 | 24000 | 23643 | 608 | |
| Queen's..... | 15 | 904 | 37300 | 162 | 468 | 9486 | 632 | 35351 | 11013 | ... | ... | ... | 18393 | 250 | ... | 922 | ... | 3679 | ... | |
| Shelburne..... | 59 | 2839 | 126225 | 643 | 1199 | 30365 | 1829 | 249445 | 25669 | 9 | 12850 | ... | 3800 | ... | ... | 2173 | 2880 | 11140 | 1270 | |
| Yarmouth..... | 65 | 3639 | 144240 | 1121 | 562 | 7714 | 874 | 47440 | 14232 | 12 | 17000 | ... | 3250 | ... | ... | 6573 | 7000 | 1490 | 5465 | |
| Totals..... | 597 | 31077 | 1412645 | 6396 | 13693 | 320426 | 21288 | 3130394 | 763160 | 118 | 53925 | 2042 | 287722 | 2892 | 8032 | 70509 | 91408 | 126054 | 17160 | 21448 |

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels, &c.—Nova Scotia—Concluded.

| COUNTIES. | KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | | VALUE. | | | | |
|--------------|----------------|-------------------------------|---------------|------------|-------------------|---------------|---------------|-------------|------------|-------------|----------------|--------------|-------------|----------------|----------------|--------|------------------|-------------------|--------------------------|----------------------------|
| | Cod, cwt. | Cod Tongues and Sounds, brls. | Pollock, cwt. | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, brls. | Basg, lbs. | Trout, lbs. | Squid, brls. | Smelts, lbs. | Eels, brls. | Oysters, brls. | Loobers, cans. | | Fish Oil, galls. | Fish Guano, tons. | Fish used as bait, brls. | Fish used as manure, brls. |
| Cape Breton. | 20515 | | 30 | | | 2615 | 34280 | 13 | | 8480 | | 21350 | 225 | 26 | 242428 | 9337 | 63 | 2352 | | 190,051 26 |
| Inverness. | 35532 | 95 | | 1560 | 1730 | 3011 | 4040 | | | 59432 | 2115 | 115300 | 839 | 1900 | 173066 | 15506 | | 2880 | 1800 | 377,339 12 |
| Richmond. | 92144 | 277 | | | | 14610 | | | | | | 1800 | 237 | | 1571828 | 6850 | | 210 | | 755,732 36 |
| Victoria. | 21854 | | | | 320 | 1756 | 830 | | | 2350 | 2313 | 5500 | 78 | 245 | 91584 | 12629 | | 2500 | 70 | 187,453 18 |
| Antigonish. | 283 | | | 3660 | 4930 | 446 | | | 4270 | 7370 | | 38000 | 326 | 240 | 240000 | 1810 | | 2050 | | 81,720 00 |
| Colchester. | 145 | | | | | | 2250 | 362 | 710 | 2300 | | 29000 | | 20 | | 112 | | 320 | | 10,206 00 |
| Cumberland. | 315 | | 40 | 16 | | 264 | 700 | 100 | 200 | 2350 | | 11200 | 18 | 382 | 274920 | 20 | | 691 | | 48,115 00 |
| Guy'sboro'. | 21544 | 13 | 50 | 300 | | 4474 | 19240 | 6 | | 24600 | 7714 | 74050 | 301 | | 1033242 | 10077 | | 5933 | | 457,682 00 |
| Halifax. | 38714 | 314 | 120 | 2416 | 2549 | 3197 | 18322 | | | 13850 | | 23550 | 54 | | 946337 | 37472 | | 2467 | | 728,246 00 |
| Hants. | | | | | | | | 228 | 3695 | | | | | | | | | | | 6,870 00 |
| Pictou. | 83 | 15 | 20 | 25 | | 34 | 1000 | | 200 | 900 | | 12200 | 460 | 150 | 779280 | 200 | | 1687 | 1020 | 120,176 00 |
| Annapolis. | 3805 | 35 | 1231 | 1150 | 1130 | 3981 | 29850 | 20 | 2500 | 9200 | | | 33 | | | 1915 | 169 | 3417 | | *67,454 50 |
| Digby. | 56070 | 87 | 32118 | 47655 | 18500 | 45637 | 172700 | 5 | | | 25 | | | | 26900 | 77970 | | 12540 | 8800 | *1,087,441 00 |
| King's. | 1501 | | 350 | | | 794 | 1200 | 729 | 1800 | | | 6000 | 9 | | | 640 | | 707 | 1325 | *49,463 00 |
| Lunenburg. | 95957 | 409 | 6494 | 1578 | 784 | 14448 | 168130 | 11 | 1109 | 462 | 4790 | 130 | | | 266600 | 37108 | | 1568 | 3713 | *1,330,920 00 |
| Queen's. | 15979 | 15 | 52 | 885 | | 842 | 11060 | 38 | 4550 | 20 | 24500 | 45 | | | 135415 | 9603 | | 1701 | | *162,357 60 |
| Shelburne. | 63100 | | | | | 10120 | 147000 | | 6000 | 40 | 5000 | 90 | | | 240656 | 32317 | | 13875 | | *599,795 62 |
| Yarmouth. | 41143 | 35 | 3894 | 90 | 60 | 3945 | 76955 | 35 | 3650 | 350 | 49500 | 307 | | | 149460 | 15792 | 35 | 2566 | 2500 | *425,422 00 |
| Totals. | 607904 | 1355 | 49428 | 50335 | 30103 | 110174 | 687657 | 1607 | 11575 | 147941 | 13039 | 421740 | 3242 | 3013 | 6161716 | 269418 | 267 | 57554 | 19228 | 6,636,444 64 |

* The value of these counties includes also value of fish not enumerated in these columns. See County Returns.

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of **Nova Scotia**,
for the Year 1890.

| Kinds of Fish. | | Prices. | Quantity. | Value. | Total. |
|--|--------|-------------|-----------|--------------|--------------|
| | | \$ cts. | | \$ cts. | \$ cts. |
| Salmon, pickled. | Brls. | 16 00 | 2,042 | 32,672 00 | |
| do fresh. | Lbs. | 0 20 | 287,722 | 57,544 40 | |
| do smoked. | " | 0 20 | 2,892 | 578 00 | |
| do cans. | " | 0 15 | 8,032 | 1,205 40 | |
| | | | | | 91,999 80 |
| Mackerel. | Brls. | 15 00 | 70,509 | 1,057,635 00 | |
| do cans. | Lbs. | * | 91,408 | 11,985 00 | |
| do fresh. | No. | 0 06 | 770,090 | 46,254 00 | |
| | | | | | 1,115,874 00 |
| Herring. | Brls. | 4 00 | 126,054 | 504,216 00 | |
| do smoked. | Boxes. | 0 25 | 17,160 | 4,290 00 | |
| do cans. | Lbs. | 0 10 | 6,336 | 633 60 | |
| | | | | | 509,139 60 |
| Alewives. | Brls. | 4 50 | 21,448 | 96,516 00 | |
| do smoked. | No. | 80c. p. 100 | 130,000 | 1,040 00 | |
| | | | | | 97,556 00 |
| Cod. | Cwt. | 4 00 | 607,904 | 2,431,616 00 | |
| do Tongues and Sounds. | Brls. | 10 00 | 1,355 | 13,550 00 | |
| | | | | | 2,445,166 00 |
| Haddock. | Cwt. | 4 00 | 110,174 | 440,696 00 | |
| do fresh. | Lbs. | 0 04 | 400,000 | 16,000 00 | |
| do smoked. | " | 0 08 | 158,000 | 12,640 00 | |
| | | | | | 469,336 00 |
| Pollock. | Cwt. | 4 00 | 49,428 | | |
| Hake. | " | 4 00 | 59,335 | 237,440 00 | |
| do Sounds. | Lbs. | 1 00 | 30,103 | 30,103 00 | |
| | | | | | 267,543 00 |
| Halibut. | " | 0 10 | 687,657 | | |
| Bass. | " | 0 06 | 11,575 | | |
| Trout. | " | 0 06 | 147,941 | | |
| Smelts. | " | 0 06 | 421,740 | | |
| Shad. | Brls. | * | 1,607 | | |
| Eels. | " | 10 00 | 3,242 | | |
| Squid. | " | 4 00 | 13,039 | | |
| Oysters. | " | 3 00 | 3,013 | | |
| Clams. | | | | | |
| Scallops. | Doz. | | 600 | | |
| Lobsters, in cans. | Lbs. | 0 12 | 6,161,716 | 739,406 44 | |
| do alive, &c. | Tons. | * | 3,632 | 126,920 00 | |
| do do | No. | | 2,102,400 | 84,096 00 | |
| | | | | | 950,422 44 |
| Fish Oil. | Galls. | 0 40 | 269,418 | | |
| Fish used as Bait. | Brls. | 1 50 | 57,554 | | |
| do Manure. | " | 0 50 | 19,228 | | |
| Fish Guano. | Tons. | * | 267 | | |
| Home Consumption in Halifax and Richmond County not included above. | | | | | |
| | | | | | 59,300 00 |
| Total for 1890. | | | | | 6,636,444 64 |
| do 1889. | | | | | 6,346,722 00 |
| Increase. | | | | | 289,722 64 |

* Inspectors used different prices.

TABLE showing the Value of Vessels, Boats, Nets, &c.. engaged in the Fisheries of Nova Scotia, with an Approximate Value of other Fishing Material, for the Year 1890.

| Articles. | Value. | Total. |
|--------------------------------|-----------|-----------|
| | \$ | \$ |
| 597 vessels, 31,077 tons..... | 1,412,645 | |
| 13,693 boats..... | 320,426 | |
| 3,130,394 fathoms of nets..... | 763,160 | |
| 118 weirs..... | 53,025 | |
| Seines..... | 139,040 | 2,688,296 |
| Canning establishments..... | 252,480 | |
| Lobster traps..... | 162,828 | 415,308 |
| Trawls, hand lines, &c..... | 34,100 | |
| Steamers, smacks, &c..... | 25,500 | |
| Smoke houses..... | 2,106 | |
| Ice houses..... | 20,000 | |
| Fishing piers, &c..... | 58,000 | 139,706 |
| Total..... | | 3,243,310 |

STATEMENT of Men Employed in the Fishing Industry.

| Description. | Number. |
|---------------------|---------|
| Sailors..... | 6,396 |
| Boat fishermen..... | 21,288 |
| Total..... | 27,684 |

APPENDIX B.

NEW BRUNSWICK.

District No. 1, comprising the County of Charlotte.

Inspector, J. H. Pratt, St. Andrews.

District No. 2, comprising the Counties of Ristigouche, Gloucester, Northumberland, Kent and Westmoreland.—Inspector, R. A. Chapman, Moncton.

District No. 3, comprising the Counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.—Inspector, D. Morrow, Oromocto.

DISTRICT No. 1.

REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK, FOR
1890, BY INSPECTOR J. H. PRATT.

ST. ANDREWS, N.B., 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the following as my second annual report of the fisheries of District No. 1, Province of New Brunswick, for the year ending 31st December, together with the usual statistics and reports of the several officers under my supervision.

STATISTICAL RETURNS.

These returns, I regret to report, show a slight decrease in the catch and value of the fisheries, the relative difference between the years 1889 and 1890 being :—

| | |
|-----------------------------|----------------|
| Value of product, 1889..... | \$1,373,589 26 |
| do 1890..... | 1,062,756 10 |

| | |
|--------------------|------------|
| A decrease of..... | 310,833 16 |
|--------------------|------------|

This deficit is to be found in the decreased catch of large herring, which last winter were unusually late in "striking" our shores, and when they did strike in, the large arrivals of frozen herring from Newfoundland had filled the United States markets, dropping prices down to a very low figure. Many fishermen, in consequence, did not engage in this branch of the fisheries. During the summer season, herring suitable for smoking purposes failed to visit the shores of Grand Manan in such large schools as in former years, and accordingly the number of boxes put up show quite a falling off.

All other fisheries, however, are in a prosperous condition, and show a considerable increase in value.

DUTY OF FRESH FISH.

I might mention that there is a strong feeling among the inhabitants of this district that an export duty on fresh fish exported in foreign vessels would help our fishermen to a large extent.

CURING OF HERRING.

A large number of copies of the report of the delegates sent by your Department to investigate the methods employed in catching and curing herring in the United Kingdom and the continent of Europe, has been judiciously distributed among our fishermen, and has been the means of provoking much discussion and argument among them regarding the proper methods of handling this fish. They feel, however, that they can cure and pack herring as well as any fishermen in the world, and they give as a reason for not putting up this fish in a better manner than at present, that on account of the absence of compulsory inspection, the careless and indolent fishermen who put up poor fish receive as good a price as those who are painstaking and preserve their catch in a proper manner.

BAIT.

Notwithstanding the constant assertions of fishermen in the United States that they have unlimited quantities of bait of all kinds on their own coast, we find numbers of their largest schooners coming to this district each year, especially during the winter season, to procure a supply of bait. At this date, eight fishing schooners are swinging to their anchors off Eastport, willing to give any price for the desired amount of bait. I counted one day, last winter, fifteen schooners anchored there seeking bait. Many of them come to the Canadian side and purchase a license, then seek some of the fishing centres and buy the desired supply from our willing fishermen; while others, not willing to purchase a license, anchor off Eastport and send trading vessels to purchase and bring them the required amount.

ST. CROIX RIVER.

I cannot speak too highly of the admirable manner in which the salmon fisheries of the St. Croix River have been protected during the past year by the Warden on the United States side co-operating with the excellent Warden employed on the Canadian side by your Department. Where, in former years, a number of lawless characters of St. Stephen and Calais defied the officers of both Governments and slaughtered the passing salmon when and how they pleased; now all is changed. Two officers, widely known for their fearlessness, patrol the river each night when the salmon are running, and give these fisheries most excellent protection.

I regret very much to report that there are many fishermen in these waters who are deeply imbued with the feeling that the several provisions of the Fisheries Act were enacted for the guidance of fishermen of other portions of Canada, and that in this district, in their fishing operations, they should be allowed to follow their own will, and treat with contempt fishery officers and their instructions. This class, I am glad to say, is rapidly decreasing in numbers, and during the past year some of the provisions of the ignored "Act" have been brought to bear on them; and I trust that in the very near future, this troublesome class will imbibe other ideas, which will tend to make them good, law-abiding citizens, and give, when desired, assistance to the several fishery officers to aid them in enforcing the wise provisions of the Fisheries Act, thus preserving our fisheries and handing them down to the coming generation in as good, if not better, condition than they were received from our forefathers.

ENFORCEMENT OF THE FISHERIES ACT AND REGULATIONS.

It has been my painful duty at different periods during the year to summon before me and impose penalties, more or less severe, on a number of fishermen for violation of clauses of the Fisheries Act, and with very few exceptions the offenders acknowledged the wisdom of the "Act," and without any demur promptly paid their fines. The imposition of fines has in all cases put a stop to the abuses complained of.

In reference to the provisions of The Fisheries Act as they now stand, they seem to be adapted to the requirements of this district; and while some of them

might be altered and improved with undoubted benefit both to our fishermen and fisheries, still, I am of the opinion that if the laws at present in force were strictly carried out by the several officers, much real benefit would be done to our fishing grounds, and very little need of your Department for any new ones for some time to come. When they are tried and found deficient, it will then be high time to think of recommending your Department to adopt other regulations which might be more effectual.

The several close seasons have been very well observed, and it is a pleasure to notice how, year by year, the fishermen, instead of treating the fishery laws as something enacted for their injury, are slowly, but nevertheless surely, beginning to regard them as essential to the preservation of their unsurpassed fishing grounds.

FISH-WAYS.

With regard to the fish-ways of my district, they are all in good order, with very few exceptions. These, I believe, would be of more benefit to our fisheries if the few improvements suggested in my late report on the fishways were carried out. One mill-owner, in whose dam there is a fish-way, persisted for a time last season in closing the entrance, and all fish, alewives principally, in their return to the sea, were compelled to pass through the mill sluice, and were therefore ground up in the wheel. However, this case shall receive necessary attention during the coming season.

SALMON.

A slight increase is noticed in the catch of this delicious fish, due to increased numbers seeking the St. Croix River, especially during the latter part of the season. Good sport with the rod was had above St. Stephen by a number of sportsmen, and in Chamcook Lake; the take of land-locked salmon, also, afforded a large amount of pleasure to many foreign and local disciples of Isaac Walton. I placed 5,000 salmon fry in Lake Utopia this year, and trust the experiment will be attended with success.

MACKEREL.

The re-appearance of this fish in the Bay of Fundy, after such a lengthened absence, was a surprise to our fishermen, and no time was lost in their earnest endeavours to capture as many as possible. They were principally of the kind known as number three's, although some schools captured would be classed as number two's. A large number of schools were met with in all parts of the Bay of Fundy, and our fishermen were highly pleased with the hauls they managed to take. It is to be hoped that next season, this valuable fish will again seek these waters in as large, if not larger schools, and after the experience gained during the past summer, our fishermen will be able to give a better account of themselves.

HERRING.

A large decrease is noticed in this fishery, not, however, in the catch of small herring used for sardines, but among the large kind suitable for export fresh or to be used for smoking purposes. Different reasons, highly contradictory, however, are given by experienced fishermen, to account for the decrease of the schools and their lateness in striking our coast; but after a thorough enquiry among those in a position to understand the matter, I am of the opinion that it would be of great benefit to this fishery if a law were enacted compelling all nets to be taken out of the water each morning and not to be set again till sunset.

In view of the increasing scarcity of schools of large herring which in former seasons struck on the Pennfield shore and in Passamaquoddy Bay so plentifully, and at a much earlier date, it will be necessary for your Department, in the near future, to enact a measure prohibiting the taking of these fish for use as manure.

It does not altogether seem capable of belief that schools of young herring are destroyed at certain seasons of the year, for (in my opinion) very questionable pur-

poses ; that at other seasons the same variety of fish, when their value is greatly increased, can be expected to frequent our shores in as large schools as would be the case if their numbers had not been lessened at times of plenty to satisfy the greed of some reckless fishermen. But, I am surprised to find there are many who expect the schools of herring, no matter how they are harassed and broken up, and destroyed, to remain in the same numbers on our shores, and are greatly astonished during seasons of scarcity.

SARDINE HERRING.

During the past year the demand for small herring for sardine purposes has continued brisk, and remunerative prices prevailed ; but the weirs nearest Eastport being fortunate enough to make large catches monopolized the business, to the utter neglect of those situated at more distant points. A number of weirs are proving first-class investments for their owners, and are naturally objects of envy in the eyes of less fortunate weir-owners. During the past summer, a sardine factory began operations at Campo Bello, owned by Costigan & Co., of Montreal, and their product found a ready sale in Canada at paying figures. The firm are highly pleased with the quality and quantity of their pack, and, if suitable fish are procurable, will continue operations during the winter season.

HALIBUT.

Compared with 1889, double the weight of this fish has been taken, and the catch is confined solely to the fishing grounds of Grand Manan. These grounds, in the days of free fishing, were the favourite resort of numbers of United States vessels, who, by persistent fishing, almost cleared them of this much sought for fish. By the reports of reliable fishermen, halibut are returning to the waters of the Bay of Fundy, and with proper protection, it is hoped this fishery will return to its former vigour.

LOBSTERS.

While the lobster catch has not increased in quantity, it shows a highly gratifying increase in value, almost double that of 1889. This increase I attribute to the opening of new markets, and also to a more active demand in the United States, caused by a decreased catch on the fishing grounds of that country. This great increase in their value led many of our fishermen to be over-anxious in the placing of their traps in the water, without due regard to the close season—so much so that they set them before the open season began, although warned not to do it, by myself and the several officers. I accordingly was compelled to take up the traps, thirty-four in number, and to confiscate them, much to the pleasure of law-abiding fishermen, who were awaiting the close time to expire.

POLLOCK, COD AND HAKE.

The returns show the catch of these fish to be about the same as last year, and those engaged in their capture made a fair season's work. The prices held good during the season, and fishermen found no difficulty in disposing of their catch.

HADDOCK.

Over double the catch of 1889 is the welcome return for this fishery for the year. The prices given by dealers remained good during the season and the demand continued brisk.

TROUT.

As near as can be ascertained, the catch of trout remains about the same as last year, but it is extremely difficult to procure correct returns. Very little, if any,

illegal fishing is carried on, although reports which, in my opinion, are without foundation, are put in circulation at times regarding fishing through the ice and netting.

FROST FISH, SMELTS, FLOUNDERS, SQUID AND PICKEREL.

The catch of these fish shows in the aggregate quite an increase, but these fisheries are not prosecuted with any degree of vigour in this district, not being considered of much value.

OYSTERS.

Though the oyster is not a native of this district, it is thought by many well-informed persons, that the experiment of planting, if tried, would meet with success. Some were planted by a Montreal firm over a year ago at Bocabec and Digdeguash, but with what success has not yet been learned. The presence of starfish, which abound here, will, I am sure, prevent oysters from being cultivated with any degree of success.

I have to thank the several officers in my division for the cordial assistance rendered during the past year in my efforts to manage the valuable fisheries placed under my charge. While some of them, I must say, are inclined to interpret their instructions in a manner rather more lenient than is intended and the preservation of the fisheries demand, still, no matter what his feelings and inclinations are, it should be the duty of every fishery officer to enforce strictly and impartially all regulations, and I believe that if he shows he is endeavouring to do what is fair and just, even the fishermen will like and respect him for it.

I beg to append the salient points of the reports of local fishery officers and the fisheries statistic tables.

I have the honour to be, Sir,

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries, District No. 1, New Brunswick.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS.

Overseer Lord, of West Isles, reports as follows:—This has been a prosperous season for the fishermen of this district, as almost all kinds of fish have been plentiful and prices very good. My returns will show that the sardine business was better this year than last, more fish being taken and better prices realized. Hake and cod have also been more plentiful. Why the returns do not show an increase in line fishing is because the great majority of the men are engaged weir fishing. Pollock were plentiful in the early part of the summer, and although lobsters were not taken in such quantities as in former years, still, owing to the increase in prices paid, the fishermen were enabled to make good wages. There has been quite a falling off in the quantity of herring smoked. This has not been on account of scarcity of herring, but on account of the limited market since the new tariff has been put in force by the United States, which, practically shuts us out from that market.

Overseer Todd, of St. Croix district, reports the run of salmon in the St. Croix River during the season and, especially the latter part of it, to be large. None were taken except with the rod. Poaching was entirely prevented by Guardian Glass, co-operating with the Warden on the American side of the river. The take of sardine herring in this district was very small. All were caught in the early part of the season, and were followed by immense quantities of squid, which ruined the fishing for the balance of the season.

The fish-ways, seven in number, are in good condition, but that at Baring should be lengthened. The fish-way at Broad's dam, on the Dennis stream, should be kept open until the 1st of October. Hitherto, to save water, the proprietor

closed this fish-way during late summer and early autumn, and the result has been that the young alewives going to the sea passed in large numbers through the penstock into the turbine wheel and been there destroyed all the water of the stream during times of drought being directed to the penstock.

Overseer Barry, of Magaguadavic, reports that the fish-ways at the lower falls on the Magaguadavic River are in good order, and have been during the past season, requiring only some temporary repairs. The freshet in the river was favourable for the fish-ways, not being unusually high, and therefore giving a fair head through the ladders at the different points. There are four ladders in the Gully, so called, placed at different points.

Alewives have been quite plentiful in the river near the mouth of the lower fish-way, and he thinks a considerable quantity ascended, judging from the indications above the dam in the main river. The loss of a short dam across the main river, just above the mouth of the lower fish-way at the head of tide water, which was carried away two years ago, will make quite a difference in the quantity ascending the ladders. When the old dam was standing, the fish could only go up the river as far as the mouth of the lower ladder, but now they can go up with the flood tide to the upper dam, about forty or fifty rods, and then return on the ebb tide to the basin below. Some of the ladders will require slight repairs in the spring, and about 20 feet should be added to the lower end of the lower fish-way.

Overseer Campbell, of St. Andrews, states that the fisheries in his district have fallen below the average. Very few net herring were taken in Passamaquoddy Bay last winter, and line fishing, always small, this year amounts to very little. Several resident fishermen have, of late years, left the district or gone into other business. The lobster catch was about the same as last year, with fewer traps used. The catch was poor, and without a few years' close season will, soon be ended. The size of lobsters taken remains about the same, fifty-five lobsters to the hundred pounds. Last spring, the traps had to be moved often, as after a few days no more fish could be caught in the place where they were set.

No trouble has arisen through the taking of undersized lobsters, as they were mostly sold to Eastport buyers and shipped away fresh in ice; small ones not being wanted. The run of herring suitable for sardines was large, but the catch small. The business was so poor in 1889 and 1890 that not more than half as many weirs were put in order as in 1888, and many of those were scarcely tended or seined. The demand of the Maine canneries was not so great as usual, and the supply of sardines from islands contiguous to Eastport was so great that but little sale was found for them here, and prices were so low that the owners would not seine their weirs. Of late, and at present, there has been more sale and better prices, running from \$3 to \$18 per hoghead, and a good many are being taken at present. There were times during the season when the bay swarmed with herring too small for sardines, from 2 to 4 inches in length. There has been few, or none, pressed for pumace and but very little attempt to use them on the land as manure. On the whole, there seems to be a supply of sardine herring in this district far exceeding the demand, which are not taken. The burning of the sardine factory here last winter, which was not re-built, was an injury to the town and the fishery of the district.

There was quite a run of mackerel in the bay this season, and the catch of those fish aided the weir-owners considerably. The fish were small, about number three's, and brought good prices in the market. The presence of the cruiser "Dream" keeps matters straight, and deters unruly fishermen from attempting to violate the fishery regulations, and this makes it easy for the local officers.

Land-locked salmon fishing was carried on in the Chamcook Lakes by numbers of fishermen, and the regulations were very well obeyed. The public are in favour of protecting this fishery, and notice of any violation is quickly given. Some very fine fish were taken with hook and line; but the catch was not large, as this fish is a dainty feeder and hard to take. The fishing season in these lakes should be extended to the 1st of April, or at least to the 15th, as the fish cease to bite as soon as the

waters become warm, and few, if any, are taken after the first of June. This fish affords fine sport, and, fished legitimately, the number will increase rather than diminish. The best fishing is from 15th April to 15th May. These lakes, four in number, are open to any one who chooses to fish, and are not controlled by any club or other body, and are not likely to be, as several roads open on them. The railroad runs on the shores of three of them, and the number of landowners is large, while the school and church lands extend over a good part of the largest lake.

Overseer Ash, of Beaver Harbour, states that all kinds of fish were plentiful in his district during the past year, but not so many line fish have been taken, on account of fishermen being engaged in mackerel and herring fishing. Sardines were plentiful at the western end of this district, but prices were so low that it did not pay to fish weirs. There was a better catch of lobsters than last year, and they ran larger in size, which is attributed to the strict manner in which the law is enforced, prohibiting the taking of those under 9½ inches. On account of the increasing scarcity of the schools of large herring, which formerly played on the shores of this district, the fishermen here are fast gaining the opinion that the taking of small herring for sardine and fertilizing purposes will in the end ruin our large herring fishery, as each winter they are later striking the shores and are less in numbers. The several close seasons are now strictly observed by our fishermen, thanks to the Fisheries Department for placing the cruiser "Dream" in these waters, and thus compelling a number of would-be violators of the law to make themselves familiar with the provisions of the Fisheries Act, and abide by them. Where formerly a great amount of trouble was caused by owners of weirs neglecting to apply for leases at the proper time; under the regulations enforced now by the Inspector for this district, little or no trouble is caused.

Overseer McLaughlin, of Grand Manan, reports that in his district during the past season the fisheries have been fairly remunerative, and that fishermen are very well provided for the winter which is now upon them. They have strong hopes that the herring which have forsaken the shores unusually early during the past two seasons will return and give them some thing to work at during the present winter. There has been a falling off in the catch of hake and large net herring and a slight decrease in the take of small herring for smoking, but a healthy increase is felt in the catch of cod, pollock, haddock, halibut and mackerel. The North Head has been most affected by the decrease in the catch of hake and large herring, but the fishermen have been diligent and made some good hauls. The herring weirs, from Cheynis and Cow passages, to Long Island, were almost a failure compared to former years, and the herring ran small, or of the sardine size. The weirs to the southward of the passages and on the western side of Grand Manan fished well, and caught large numbers of good smoking herring, but they ran rather smaller than last year's catch. Had sardine fish been scarce in other places, weir fishing would have been a success; but as they were very numerous in the waters along the mainland, they were not of much value here. The fishermen of White Head Island seem to have been the most favoured of any in this district, and the line fish were very abundant on the fishing grounds, and have been taken in large quantities. In the ninety smoke-houses, at least half a million boxes of smoked herring have been put up, and at the close of the season they have taken in their weirs two hundred barrels of fine mackerel, and yet these people have displayed more discontent than the inhabitants of any other part of this district. The catch of lobsters has been less than in any year since that branch of fishing has begun, and they only fished in all about sixty days. As the taking of small or illegal lobsters met with a severe check from the Inspector in the steamer "Dream," the fishermen took up their traps and quit fishing rather earlier than in former years. The fishery regulations have been well observed throughout the year, and the only abuse to which attention is called is the habit fishermen have of leaving their nets in the water for days and weeks at a time. Up to thirty years ago, this practice was unheard of in this district; fishermen put their nets in the water in the evening

and took them up in the morning. Such a thing as day-light net fishing, with nets set to moorings, was not thought of; and it is only since fresh herring have been in such large demand that this practice has been general.

This, and the practice of throwing gibs or offal on the fishing grounds has at last resulted in compelling herring to seek other grounds in the Bay of Fundy. When the close time expires at Southern Head, Grand Manan, the waters are generally swarming with large net herring. A fleet of vessels muster on the grounds and set out a great number of gill-nets. These nets are left in the water for days at a time, with more or less dead or dying herring in them, till the fish are scared to other resorts, and they are followed by these portable fisheries until they are driven to the open ocean. Then, the net fishermen will proclaim through the newspapers that the weirs have destroyed all the herring. About the 1st November, I overhauled about forty gangs of nets set for daylight fishing, and I am satisfied there were herring and mackerel in these nets that had been dead for four days at least. This, in a short time, had the effect of driving or scaring the herring from the grounds, and they have not returned to any part of Grand Manan, except to Dark Harbour.

Last year it was the same,—the herring went to the south-east of Big Duck Island and remained there till late in February, when the heavy easterly gales drove them for refuge to North Head and the north shores of the bay. These are facts, and any one who doubts the cause herein stated can refer to the report of the two delegates sent to Europe to investigate the herring fishery there. It is therefore suggested that the close time at Southern Head be from 15th of July to the 15th of December of each year, and that fishermen be compelled to take their nets out of the water every morning and not set them until evening.

Overseer Brown, of Campo Bello, reports a large increase in the catch of nearly all kinds of fish, large herring and pollock excepted. Hake and haddock were better than for a number of years, and the catch of lobsters, sardines and mackerel was above the average. Line fishermen made a good year's work. Most of the weirs had large catches of small herring suitable for sardine purposes, but very few large enough for smoking. The winter herring fishery was small. The fish did not come into the bay until the 15th of February, bringing then a good price, so that the fishermen fared better than they did last year. Lobsters were very scarce during the season, but on account of the extension of time they were allowed to be taken, as well as the good prices obtained, fishermen did very well. Were it not for the scarcity of bait there would have been a larger quantity of cod and pollock taken. Very few squid were caught. As small herring and squid are most suitable bait for line fishing, and some of the weir owners would not sell small herring to the fishermen when they could sell to American sardine buyers, the consequence was that our fishermen lost a good deal of time and many catches of fish. Owing to the grounds being thoroughly protected and fishermen not being crowded out by foreigners, trawl fishing was better than usual, and, upon the whole, fishermen made a good year's work. The several close seasons were very well observed.

J. H. SPRATT,

Inspector of Fisheries, District No. 1, N.B.

DISTRICT No. 2.

REPORT ON THE FISHERIES OF DISTRICT No. 2, COMPRISING THE COUNTIES OF RESTIGOUCHE, GLOUCESTER, NORTHUMBERLAND, KENT AND WESTMORLAND, FOR THE YEAR 1890, BY INSPECTOR R. A. CHAPMAN.

MONCTON, 31st December 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report on the fisheries of district No. 2, comprising the Counties of Restigouche, Gloucester, Northumberland, Kent and Westmorland, in the Province of New Brunswick, for the year 1890, with extracts from the reports of local fishery officers. While there is an actual increase in the aggregate of values of upwards of \$150,000, the returns, for reasons explained elsewhere, show a trifling falling off in the catch: prices for all kinds of fish, with the one exception of smelts, having ruled very high, made it on the whole a profitable year for our fishermen, with a disposition on their part generally to observe the regulations and assist the Department and their officers in taking such steps as may be necessary to permanently increase this great sea harvest. It has been my aim, at all times, to impress upon the minds of fishermen and others interested that their object and the Departments should be identical, and that all should work in accord for the one great end—the preservation of our fishing industries. Owing to the very high freshets this year in what are usually the dry summer months, we have been unable to make much progress in fish-ways but, hope another season to open up two or three fine rivers to the different kinds of fish that formerly frequented them.

SHAD.

There is a very small catch this year in the rivers and estuaries at the head of the Bay of Fundy where they used to be so plentiful. There is only one way that will restore these fish and that is, not to allow any to be caught anywhere in this Province until the 1st July. I have watched the shad coming into this, the Moncton market from St. John, from the 10th May to the middle of June, and every female shad opened is full of spawn. It certainly seems a great mistake to thus exterminate what was once so valuable an industry; when the cause is so apparent and the remedy so plain.

SALMON.

The returns show a large increase in the catch on the Miramichi River and estuary, as well as in some sheltered portions of the coast; but the weather was so stormy during the season, that nets were destroyed and fishing almost abandoned in many places. Notwithstanding this, there is an increase in the aggregate over last year, and the officers and guardians everywhere report a fine run of salmon going up to the spawning grounds this fall.

BASS.

Fishing for these fish being prohibited on the Miramichi, little can be said until the effect of this is known; but officers and others best able to judge speak very hopefully.

HERRING.

There was the usual abundance of spring herring, and little attention seems to be given of late years to the fall fishing of this important article of home consumption.

SMELTS.

The catch of 1890 of this little fish was nearly up to that of 1889, but they were exceedingly small, and everyone was predicting that they were running out, but strange to say they have struck in this fall in large numbers and of good size, very much larger than for the past two years.

COD.

A falling off from last year's good catch is reported of this very valuable fish, not it appears, however, from their scarcity, but rather from rough weather and want of bait.

MACKEREL.

There is, as usual, a small catch of this fish, and there appears to be little effort made on our coasts to increase it.

TROUT.

Rather more trout are reported caught than last year, but as most of these fish are taken by anglers acting under leases from the provincial authorities, reports of catch are not very reliable.

LOBSTERS.

There has been a marked improvement in this fishery in 1890 over 1889 amounting to over half a million pounds, and which would have been a million or more had it not been for the very stormy weather, which in some exposed districts prevented fishermen getting at their traps more than half the time. The lobsters were also of larger size than for some years past, which goes to show that the shorter time for taking them and the longer close season is beginning to show results which make large packers especially opposed to any extension whatever of the time for fishing.

OYSTERS.

There appears to be little diminution of oysters in the beds of Northumberland and Gloucester counties, but with the continually decreasing quantities taken in Kent and Westmorland there is great danger of over-fishing.

R. A. CHAPMAN,
Inspector of Fisheries.

SYNOPSIS OF FISHERY OVERSEERS REPORTS.**RESTIGOUCHE COUNTY.**

Overseer J. A. Verge, of the River Division, reports that salmon fishing in the estuary of the river did not come up to last year's catch. This shortage is attributable to strong gales from the east during the first run of fish, the nets being torn, and could not for several days be mended. It is evident from the large number of salmon reaching the fluvial portion of the River to the fly fishing grounds that there is no decrease in fish coming to their summer haunts. The failure is not due to any over fishing, there being no increase of stands for the last eight years, and from reliable information from the chief guardian of the R. S. Club, Matapedia, the spawning beds on the main River Restigouche and on the Tomkedgwick never contained more salmon than during this season. The Sunday close time is well observed, so is the close season.

Overseer A. McPherson writes: In the salmon fishery, which is our staple fishing industry I have again to report a falling off in my district, not however, from any scarcity of fish, but owing to heavy freshets and prevalence of stormy weather

especially of easterly gales which caused the fish to keep off shore. On the other hand, the causes which led to the partial failure of the salmon fishing acted favourably in the interests of the lobster fishing, which was greatly benefited by the continued easterly winds, which drove the lobsters up the bay, so that those engaged in this business made a profitable season, both in largely increased catch and high prices obtained.

GLOUCESTER COUNTY.

Overseer F. Comeau reports a rather smaller salmon catch, owing to unfavourable weather and an increased take of lobsters, which he believes is due to the careful observance of the regulations; herrings very abundant, large increase in cod, due to the more vigorous prosecution of this fishery.

Overseer G. Cormier reports a smaller take of herring and codfish in his district, which he attributes to bad weather and not to scarcity of fish.

Overseer J. L. Hache also reports a falling off from last year's catch, especially in cod, which he says is owing to rough weather and scarcity of bait. He complains that oysters are very recklessly fished; small and large being taken indiscriminately, and then the small ones thrown away, in place of being put back into the water while alive. He believes some regulations should be made for their preservation, and recommends a limit as to size.

Overseer A. Ache states that codfishing shows a decrease from last year, caused by stormy weather and want of bait. Other fisheries (except mackerel, which was better) have been about the same as in 1889.

Overseer A. Boyd reports a large increase in fishing, with corresponding results, and that the regulations with reference to size of lobsters, &c., were observed.

Overseer W. Walsh reports a much larger catch of fish than last year, which he says were of excellent size and quality, and indications are that many more will be engaged in fishing next year. The regulations have generally been well observed, and he urges strongly that the close time for alewives begin 20th June, as after that date they are nearly worthless, and trout begin to come in and are caught in the nets.

Overseer O. Robichaud says, in general, the fishing has been good. The catch of smelts was better than last year, but smaller in size. Herring were very plentiful, and great quantities were caught. There is an increase in the take of alewives and lobsters, but a slight decrease in salmon, owing to stormy weather. Cod and hake about the same as last year, and mackerel much more plentiful, but hard to catch by hook and line. The several close seasons have been well observed, and fishermen generally are satisfied with the regulations.

NORTHUMBERLAND COUNTY.

Overseer P. Robichaud reports herring and salmon fishing good, except in exposed situations, where rough weather interfered with the salmon fishing. Smelt good, but a great quantity of small ones. Lobster take fair; would have been much better but for stormy weather. Regulations generally well observed.

Overseer J. G. Williston writes that salmon fishing was good, much better than in 1889; fish came in early, and many more would have been taken only for the gales when they were thickest. Salmon were also very plentiful in Bay du Vin and Black Rivers this fall spawning. Owing to rough weather, lobster fishermen could not overhaul their traps more than half the time, and still made a fair pack, the size being much larger than last year. Oyster fishing has been followed up for all it is worth. New-beds are forming and oysters are now raked where no one ever knew of one being found before. The close season should be from 1st May to 1st October, as those caught in September, being so far from market, often become worthless and are dumped. Smelts were plentiful, but very small in size. The close seasons have been well observed, and fisheries, are in a healthy condition. The present system so far is working well.

Overseer Wm. Wyse reports a large increase in the salmon catch, especially in the early part of the season, and believes it would have been much larger only for the débris carried off the ballast wharves and out into the river by every high tide, to which the harbour master pays no attention whatever, notwithstanding the damage to the navigation of the river and to the fact that salmon will at once leave when their natural waters are polluted. Smelts very small in size. The present regulations for the protection of bass will resuscitate this fishery to its once prolific state. The guardianship and patrol of the river has had a very beneficial effect on the much better protection of all the fisheries.

Overseer T. Parker reports a fair catch of salmon, especially in the early part of the season, and a great run to the spawning grounds this fall.

KENT COUNTY.

Overseer L. Guimond reports that herrings struck in about the 5th May and were very plentiful. There is a large falling off in salmon, owing to rough weather; the storms having destroyed the nets. There is also a decrease in codfish caught, for the like cause and want of bait. Less oysters were raked than last year, and winter fishing is destroying the beds and young oysters. Recommends the prohibition of winter fishing. Lobsters struck in about the 13th May. There is an increase in this fishery, both in size and numbers, having not been so large and plentiful for ten years past. The regulations were generally well observed.

Overseer M. A. Girouard reports fishing generally better than last year. Lobsters better in quantity and size; smelts smaller in size, and somewhat less taken.

Overseer Chas. Cormier says the spring herring were in abundance, the fishermen catching all they could take care of. The take of mackerel was small. The catch of lobsters was very large, and the fish were of a somewhat larger size than last year. All the packers report herring done well. There was a falling off in smelts, and they were of much smaller size than in past years. The close seasons were generally well observed.

WESTMORLAND COUNTY.

Overseer W. B. Deacon writes: In my district thirty-five factories were operated this year, being twenty more than last year, and I am informed ten or twelve more are being built for next year. The catch was fair, considering the great number of stormy days when they could not fish, being 222,672 lbs. more than last year, and 411,456 more than in 1888. Smelts were a good yield, being 283,950 lbs. more than last year.

Overseer R. Goodwin reports a small falling off taken as a whole, compared with last year. Spring herring were abundant and a large quantity taken. Alewives were caught in increased quantities in all the rivers. Shad fishing in Sackville was fair for a few days in the first part of the season. Those interested complain that the taking of parent fish in St. John harbour, before spawning, is utterly destroying this once valuable fishery. There are no abuses to complain of in this district; the several close times are well observed.

Overseer D. T. Cormier reports a very small catch of shad this year, and urges a close time up to the 25th June, to give the fish a chance to deposit their spawn, or otherwise this fishery will become extinct.

I have the honour to be, Sir,

Your obedient servant,

R. A. CHAPMAN,

Inspector of Fisheries for District No. 2.

DISTRICT No. 3.**REPORT ON THE FISHERIES OF DISTRICT No. 3, COMPRISING THE COUNTIES OF VICTORIA, CARLETON, YORK, SUNBURY, QUEEN'S, KING'S, ST. JOHN AND ALBERT, FOR THE YEAR 1890, BY INSECTOR DAVID MORROW.**

OROMCTO, 31st December, 1890.

HON. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my second annual report of the fisheries of District No. 3, New Brunswick, for the year 1890, with condensed reports from local fishery officers, and statements of product and values. The several close seasons, as a rule, were well observed. Still, there are fishermen, I regret to say, who can only be kept in line by the sharp lash of the law. In this district are a number of rapid streams and rivers, clear of sawdust and of foreign matter, most favourable for the production of fish, any of which would be an excellent location for the reception of salmon fry.

SALMON.

The returns show a small catch of salmon; the decrease is very considerable. The falling off has been confined to net fishing alone. The angling catch is reported good. The rains and high water enabled the fish to get up the rivers early in the season, and although the take has been small, it is reported that there were more salmon on the spawning grounds this fall than usual. This is no doubt due to prohibiting the capture of the fish in non-tidal waters. I would respectfully ask that more protection be given this fish on the way to, and on, the spawning grounds.

BASS.

The number of this fish somewhat increased, in consequence of more attention being given to the fishery; but the supply is diminishing. The great bulk of the catch is from Belle Isle Bay, King's Co., and as few were taken at any other place, danger of exhaustion exists.

SHAD.

There is an immense increase over the catch of last year. The bay fishery above St. John has again fallen off; the returns for Albert County showing but 10 barrels. In St. John River, an increase has been going on for some time. Previous to 1880, the catch was about 500 barrels per year; since which time there has been a regular and very considerable increase. The bay fishery for 1879 amounted to over 14,000 barrels; since then it has fallen off rapidly, until last year the harbour and river fisheries of St. John produced considerable more than one-half of all the shad taken in Nova Scotia and New Brunswick. The bay fisheries have all fallen off alike, and it is a question whether this falling off of the bay fisheries had not something to do with the increase in the St. John. I think it has. The fish return to sea after spawning, instead of going to the head of the bay, as formerly; and for some reason seek other feeding grounds and escape the fall fishermen. The additional close time from Friday evening was a much needed protection, and should be strictly enforced.

ALEWIVES.

The catch exceeds that of last year by over 5,000 barrels. The fish were more numerous in the river than they have been for some years.

PICKEREL AND PERCH.

The catch shows a small falling off. This fishery was not prosecuted as vigorously as formerly, owing to the high rate of wages along the river. The supply is abundant. Nets used in the gaspereaux fishery up to the 30th June are then set, it is claimed, for pickerel.

TROUT.

It is difficult to ascertain the catch of this fish; it can only be approximated. Trout are plentiful in most of our lakes and streams, fishing being confined to angling; and with prohibition of fishing through the ice, an increase may be expected.

COD, POLLOCK, HAKE AND HADDOCK.

The returns again show a small increase over the catch of last year.

HERRING.

The catch is less than that of last year. Winter and spring fishing were a failure. The fall fishing proved better and the fish sold at remunerative prices.

LOBSTERS.

The returns show an increase over last year's catch. The fishing season commenced early. This fishery is considerably exhausted. A larger quantity was taken in 1887 than for three years past. The care with which fishermen in this district are conducting this branch of the fisheries, by allowing all undersized lobsters to escape, was shown by an improvement in size of what was taken this season. About one-half the product of this fishery is used for home consumption, and the balance shipped fresh to the United States; none are canned here. The fishermen are of the opinion that no lobsters under $9\frac{1}{2}$ inches should be taken at any time.

DAVID MORROW,

Inspector of Fisheries for District No. 3.

SYNOPSIS OF OVERSEERS' REPORTS.

ALBERT COUNTY.

Overseer Stewart says, that the catch was small, owing in a great extent to the fishermen not prosecuting the fisheries so actively as formerly. Salmon were plentiful in both the bay and streams. Trout were unusually plentiful this season. The fish-way on Upper Salmon river was kept open, and plenty of salmon and trout passed through. In this overseer's opinion, until mill-owners are stopped from putting their refuse in the water, the fish in the Bay of Fundy will not increase to their former numbers. Close seasons well observed.

CARLETON COUNTY.

Overseer Burt reports that owing to the prohibition of netting, very few salmon were taken in his division. In the spring of 1889, ten thousand salmon fry were put into the south branch of the Beckaguimic River, many of which were seen last summer. This stream is a good one for salmon, and with proper protection from sawdust and illegal fishing would, in a short time be well stocked with fish. Salmon have been taken with the fly at the mouth of this stream during the past season. Salmon and trout are the principal fish in this division. Too much care cannot be taken to prevent their destruction.

YORK COUNTY.

Overseer Orr reports a small catch of salmon on the Saint John River. This he attributes, in a measure, to the late spring freshet during which the fish went up river.

The catch of shad was larger than that of last year; the fish were abundant and of good quality. On the South-West Miramichi, the run of salmon was equal to that of former years. Illegal fishing was not carried on to any extent.

Warden Glendenning reports a decrease in the catch, owing to less active prosecution of the fisheries.

Warden Cronkhite reports that there was very little illegal fishing done during the season. In his visits through his district, he noticed accumulations of sawdust and other refuse several feet deep in some places. The eddies in the St. John River are fast filling up with sawdust, shavings and shingle waste. He suggests that a fish-way be built in the milldam across Bel River, so that salmon may go up as formerly.

SUNBURY COUNTY.

Overseer Hoben says it is a remarkable fact that after the county has been settled over one hundred years, the gaspereaux fishery should exceed any year he can remember. The oldest fishermen report that in many places they never saw the fish so plentiful. Shad fishing in some districts was also very good. The salmon fishery was not so good. Fishermen attribute this to the summer freshet. Other fish were a fair average. Fishermen are very unanimous in saying they think it hard that they should be deprived of fishing Friday night, when in the harbour of St. John they are allowed to fish until Saturday night. This is the cause of trouble. They consider all should be treated alike. He recommends that the regulation be the same in St. John Harbour as it is up the River St. John and tributaries. The close season was well observed. In some places there is a disposition to crowd narrow channels with nets. Fishery officers should see to this. Fishermen seem quite willing to conform to the law, when made acquainted with it and its operations.

QUEEN'S COUNTY.

Warden Phillips reports a good run of salmon in Canaan River. They were a long, slim fish, different from the fry put in the river some years ago. Since sawdust has been stopped on the river, fish are on the increase. He recommends that a quantity of salmon fry be put in the river next spring, at any place above Flat Rock.

KING'S COUNTY.

Overseer Gosline reports that heavy rains and high water were favourable for the run of fish, especially salmon, and a greater number reached the spawning grounds than during the past three years. Alewives and shad were plentiful in the upper tidal waters of the Kenebecasis. The yield was at least ten thousand shad. A market is found for these along the line of railway from St. John to Moncton. As the fish increased in the stream there were more attempts to bar the whole channel with nets. Spearing salmon is not so much practised as formerly. Mill rubbish and sawdust are still the grievance of farmers and the great hindrance to an increase of any kind of fish in the rivers of this part of Kings County. He suggests prohibiting fishing for alewives and shad in Darling's Lake, a favourite spawning ground for these fish. They are taken both at the inlet and outlet of the lake in considerable numbers, before they have a chance to spawn.

ST. JOHN COUNTY.

Overseer O'Brien reports an increase in the catch of gaspereaux, and better prices than last year. Spring shad show an improvement over last year. What was shipped fresh to the States sold at remunerative prices. Freshets may have had something to do with this increase. The catch of salmon shows a great falling off, evidently caused by over-fishing in the bay. There were seventy-one boats fishing there this season. Winter herring fishing was a great failure, very few, if any, of the vessels paying expenses. There was only half a catch of fall herrings. Prices were better than last season, which helped the fishermen considerably.

Lobsters show some improvement over last year. This was caused by earlier fishing, and a larger number of men being engaged in the fishery. Other kinds of fish are about the same as last year, except eels, which show an increase. Attention is called to the inspection of pickled fish. One half the alewives inspected had to be re-inspected. The inspection of herring in St. John is an imposition on fishermen, both in the price and the way it is done. It costs 7 cents to inspect 100 lb*. The inspector breaks one to three hoops, for which he charges 3 cents apiece to replace; this brings the inspection to 10 or 16 cents per half barrel. Herrings brought in the hold of a vessel, in bulk, packed in the slip, and pickled with slip water, get the same brand as fish put up properly.

Overseer Rourke, of St. Martin's district, reports the catch small, the fishery not being prosecuted as in former years. There were but very few herrings on this shore at any time during the past season. No infringements of the regulations were reported.

I have the honour to be, Sir,

Your obedient servant,

DAVID MORROW,

Inspector of Fisheries, District No. 3, New Brunswick.

NEW BRUNSWICK—District No. 1.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in District No. 1, of the Province of New Brunswick, for the Year 1890.

| District, No. 1. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | FISHING MATERIAL. | | | | | KINDS OF FISH. | | | | | | | |
|---------------------|---|----------|--------|--------|------|-------------------|--------|-------|-------------------|--------------------------------|--------------------|-------------------|-------------------------------|--------------------------------|--------------------|-----------|-------------------------------------|--------|
| | Vessels. | | | Boats. | | Nets. | Weirs. | | Lobster Traps. | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Herring, barrels. | Herrings, frozen, per 100. | Herrings, smoked, in boxes. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Soules, barrels. | |
| | No. | Tonnage. | Value. | Men. | No. | | Value. | No. | | | | | | | | | | Value. |
| | | | | | | No. | | | Value. | Men. | Fathoms. | Value. | No. | Value. | No. | Value. | | |
| Charlotte Co. | | | | | | | | | | | | | | | | | | |
| West Isles..... | 10 | 189 | 4300 | 44 | 265 | 17900 | 264 | 11800 | 5900 | 79 | 39500 | 1800 | 900 | 900 | 20000 | 90 | 700 | |
| Ste. Croix..... | | | | | | | | | | 9 | 1800 | | | | | 50 | | |
| Magaguadavic..... | 1 | 11 | 600 | 3 | 60 | 1800 | 70 | 300 | 150 | 38 | 17100 | 900 | 900 | 1000000 | 300 | 150 | | |
| Passamaquoddy..... | 21 | 250 | 10500 | 100 | 110 | 2750 | 270 | 20000 | 24000 | 67 | 6700 | 4000 | 4000 | 5000000 | 18000 | 700 | | |
| Beaver Harbour..... | 14 | 266 | 5000 | 53 | 450 | 40000 | 716 | 20000 | 10000 | 32 | 32000 | 6000 | 6000 | 3500000 | 1250000 | 16000 | 12 | |
| Grand Manan..... | 26 | 550 | 10750 | 111 | 125 | 5300 | 186 | 7411 | 4694 | 25 | 1980 | 1966 | 983 | 3870000 | 15686 | 1436 | | |
| Campo Bello..... | | | | | | | | | | | | | | | | | | |
| Totals..... | 72 | 1266 | 31450 | 311 | 1010 | 67750 | 1476 | 59511 | 44744 | 250 | 99080 | 14666 | 12783 | 1304186 | 140 | 18986 | 12 | |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Materials, &c., District No. 1, of the Province of New Brunswick—Continued.

| District. | KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | \$ cts. | | | |
|---|----------------|------------|--------------------|---------------|---------------|-------------|------------------|-----------------|-----------------|--------------|----------------|-----------------|-----------------|------------------|--------|---------|-------------------|-----------------------------|-------------------------------|
| | Pollock, cwt. | Hake, cwt. | Hake, Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Trout, lbs. | Frost Fish, lbs. | Squid, barrels. | Flounders, lbs. | Smelts, lbs. | Pickarel, lbs. | Sardines, hhds. | Lobsters, tons. | Fish Oil, galls. | | | Fish Guano, tons. | Fish used as bait, barrels. | Fish used as manure, barrels. |
| Charlotte Co. | | | | | | | | | | | | | | | | | | | |
| West Isles..... | 5000 | 2500 | 3000 | 300 | | 3200 | 800 | 15 | | 4000 | 1500 | 10400 | 55 | 14000 | 20 | 500 | 200 | 106,940 00 | |
| St. Croix..... | | | | | | 4000 | 500 | | | 4000 | | 53 | | | | | | 2,705 00 | |
| Naguadavic..... | | | | | | 5000 | | | | | | 1680 | 65 | | | | | 1,475 00 | |
| St. Passamaquoddy..... | 200 | 100 | | 150 | | | 1000 | | 2000 | | | 3500 | 200 | 2000 | 80 | 12000 | 1000 | 40,705 00 | |
| Beaver Harbour..... | 1600 | 4000 | 4000 | 1000 | | | | | 1000 | | | 2000 | 200 | 2000 | 100 | 12000 | 100 | 130,850 00 | |
| Grand Manan..... | 10000 | 8000 | 8000 | 3000 | 100000 | | 2000 | | 2300 | | | 2000 | 250 | 50000 | | 2000 | 5000 | 575,070 00 | |
| Campo Bello..... | 1630 | 7011 | 9262 | 5441 | | | | 32 | | | | 1131 | 87 | 6724 | | 1676 | 176 | 129,561 10 | |
| Totals..... | 18439 | 21611 | 24262 | 9801 | 100000 | 12200 | 4300 | 47 | 23500 | 8000 | 1500 | 18770 | 657 | 72724 | 100 | 16176 | 6476 | 987,306 10 | |
| Clams and fish for local consumption..... | | | | | | | | | | | | | | | | | | | 75,450 00 |
| | | | | | | | | | | | | | | | | | | | 1,062,756 10 |

RECAPITULATION of the Yield and Value of the Fisheries of District No. 1, of the Province of New Brunswick, for the Year 1890.

| Kinds of Fish. | | Quantities. | Prices. | Value. |
|--|------------|-------------|---------|--------------|
| | | | \$ cts. | \$ cts. |
| Salmon, fresh, in ice..... | Lbs. | 350 | 0 30 | 105 00 |
| Mackerel..... | Brls. | 1,677 | 15 00 | 25,155 00 |
| Herring..... | Brls. | 11,270 | 4 00 | 45,080 00 |
| do frozen..... | per 100 | 13,580,000 | 0 60 | 81,480 00 |
| do smoked..... | Boxes. | 1,304,186 | 0 25 | 326,046 50 |
| Alewives..... | Brls. | 140 | 4 50 | 630 00 |
| Cod..... | Cwt. | 18,986 | 4 00 | 75,944 00 |
| Cod Tongues and Sounds..... | Brls. | 12 | 10 00 | 120 00 |
| Pollock..... | Cwt. | 18,439 | 4 00 | 73,756 00 |
| Hake..... | Cwt. | 21,611 | 4 00 | 86,444 00 |
| do Sounds..... | Lbs. | 24,262 | 1 00 | 24,262 00 |
| Haddock..... | Cwt. | 9,891 | 4 00 | 39,564 00 |
| Halibut..... | Lbs. | 100,000 | 0 10 | 10,000 00 |
| Trout..... | Lbs. | 12,200 | 0 20 | 2,440 00 |
| Frost-fish..... | Lbs. | 4,300 | 0 10 | 430 00 |
| Squid..... | Brls. | 47 | 4 00 | 188 00 |
| Flounders..... | Lbs. | 23,500 | 0 10 | 2,350 00 |
| Smelt..... | Lbs. | 8,000 | 0 10 | 800 00 |
| Pickrel..... | Lbs. | 1,500 | 0 10 | 150 00 |
| Sardines..... | Hogsheads. | 18,770 | 5 00 | 93,850 00 |
| do in cans..... | Cases. | 400 | 4 50 | 1,800 00 |
| Lobsters..... | Tons. | 657 | 60 00 | 39,420 00 |
| Fish Oil..... | Galls. | 72,724 | 0 40 | 29,089 60 |
| do Guano..... | Tons. | 100 | 25 00 | 2,500 00 |
| do used as bait..... | Brls. | 16,176 | 1 50 | 24,264 00 |
| do do manure..... | " | 6,476 | 0 50 | 3,238 00 |
| do consumed in each district (not in above returns)..... | Cwt. | 16,000 | 4 00 | 64,000 00 |
| Clams in cans..... | Cases. | 400 | 5 00 | 2,000 00 |
| do..... | Brls. | 850 | 9 00 | 7,650 00 |
| Total, 1890..... | | | | 1,062,756 10 |
| do 1889..... | | | | 1,373,589 26 |
| Decrease..... | | | | 310,833 16 |

NUMBER and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 1, Province of New Brunswick, during the Year 1890.

| Material. | Value. | Total. |
|--|------------|------------|
| | \$ cts. | \$ cts. |
| 72 vessels, 1,265 tons..... | 31,450 00 | |
| 1,010 boats..... | 67,750 00 | |
| 59,511 fathoms of nets..... | 44,744 00 | |
| 250 weirs..... | 99,080 00 | |
| 14,776 lobster traps..... | 12,783 00 | 255,807 00 |
| 2 sardine factories..... | 6,500 00 | |
| 1 fertilizer factory..... | 40,000 00 | |
| 3 ice houses..... | 750 00 | |
| 587 smoke and fish houses with fixtures..... | 184,045 00 | |
| 33 oil presses with fixtures..... | 6,174 00 | |
| 605 trawls..... | 16,100 00 | 253,569 00 |
| Total value..... | | 509,376 00 |

NEW BRUNSWICK—District No. 2.

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in District No. 2, of the Province of New Brunswick, for the Year 1890.

| District. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | | | KINDS OF FISH. | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----------|--------|-------|-------------------|--------|----------|--------|----------------|--------|-------------------|--------|--------------------------------|-------|-------------------------|--------|--------------------------|--|--------------------|------|--------------------|-------|-------------------|------|--------------------------------|--|--------------------|--|-----------|------|-------------------------------------|--|
| | Vessels. | | Boats. | | Nets. | | Weirs. | | Smelt Nets. | | Lobster Traps. | | Salmon, fresh, in ice, lbs. | | Salmon, smoked, lbs. | | Salmon, in cans, lbs. | | Mackerel, barrels. | | Mackerel, in cans. | | Herring, barrels. | | Herrings, smoked, in boxes. | | Alewives, barrels. | | Cod, cwt. | | Cod Tongues and Sounds, barrels. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. | | | | | | | | | | | | | | | | | | | | |
| 88 <i>Ristigouche Co.</i> | | \$ | \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 35 | | 350 | 35 | 8040 | | 8040 | | | | | | | 46144 | | | | | | | | | | | | | | | | | | |
| | 99 | | 900 | 160 | 7500 | | 7500 | | 4 | 80 | | 3300 | 1650 | 93600 | | 5280 | | | | 100 | | | | | | | | | | | | |
| | Totals. | | 125 | 1250 | 195 | 26240 | 15540 | 4 | 80 | | 3300 | 1650 | 139144 | | 5280 | | | | | 100 | | | | | | | | | | | | |
| <i>Gloucester Co.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | | 6000 | 900 | 12000 | | 9600 | | | | 5000 | 5000 | 58000 | | | | | | | | 12 | 13000 | | 6000 | | | | | | 2000 | | |
| | 90 | | 1500 | 150 | 4900 | | 4900 | | | | 5000 | 5000 | 60000 | | | | | | | 60 | | | 100 | | | | | | 150 | | 900 | |
| | 30 | | 600 | 60 | 6053 | | 6053 | | | | | | 100000 | | | | | | | 40 | | | 700 | | | | | | 200 | | 400 | |
| | 100 | | 2000 | 200 | 4722 | | 4000 | | | | 4000 | 4000 | 200000 | | | | | | | 100 | | | 1800 | | | | | | 3000 | | 2000 | |
| | 2 | 64 | 1000 | 10 | 230 | 4000 | 550 | 6000 | 1600 | 25200 | | 7000 | 7000 | 46000 | | | | | | 400 | | | 2000 | | | | | | 2500 | | 2000 | |
| | 4 | 63 | 1500 | 12 | 100 | 10000 | 300 | 4500 | | | | | | | | | | | | 120 | | | 1250 | | | | | | 22500 | | 2000 | |
| | 6 | 71 | 2000 | 18 | 140 | 3800 | 426 | 6000 | 3400 | | 27 | 540 | 1200 | | | | | | | 50 | | | 2500 | | | | | | 11350 | | 2000 | |
| | 26 | 335 | 15600 | 89 | 244 | 2240 | 540 | 14000 | 9000 | 2000 | 52 | 1560 | 11300 | 10730 | | | | | | 193 | | | 1540 | | | | | | 7000 | | 1800 | |
| | 1 | 15 | 500 | 4 | 90 | 4600 | 238 | 2500 | 2000 | 30 | 1050 | 7000 | 7000 | | | | | | | 300 | | | 2400 | | | | | | 450 | | 1800 | |
| | 1 | 12 | 700 | 3 | 180 | 5400 | 300 | 15000 | 9000 | 80 | 2400 | | | 10000 | | | | | | 400 | | | 3700 | | | | | | 230 | | 420 | |
| | 1 | 14 | 400 | 4 | 23 | 2000 | 56 | 3500 | 520 | 118 | 950 | 1900 | | 6700 | | | | | | 1 | | | 10560 | | | | | | 880 | | 55770 | |
| | Totals. | 41 | 574 | 21700 | 140 | 1627 | 42140 | 3720 | 79265 | 54663 | 2 | 5200 | 307 | 6500 | 42400 | 401480 | | | | 1678 | | | 40360 | | | | | | 880 | | 55770 |  | 7 |

NEW BRUNSWICK—District No. 2—Continued.

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Continued.

| District. | KINDS OF FISH—Concluded. | | | | | | | | | | | | | Fish Products. | | | | Value. | | | |
|----------------------------|--------------------------|-------------------|---------------|---------------|----------------|------------|-------------|------------------|-----------------|-----------------|--------------|-------------|----------------|-------------------|-----------------|-----------------|--------------------|--------|-------------------|-----------------------------|-------------------------------|
| | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Base, lbs. | Trout, lbs. | Frost fish, lbs. | Squid, barrels. | Flounders, lbs. | Smelts, lbs. | Perch, lbs. | Kels, barrels. | Oysters, barrels. | Lobsters, tons. | Lobsters, cans. | Fish Oil, gallons. | | Fish Guano, tons. | Fish used as bait, barrels. | Fish used as manure, barrels. |
| <i>Ristigouche Co.</i> | | | | | | | | | | | | | | | | | | | | | |
| Dalhousie to head of tide. | | | | | | | 1000 | | | | 7000 | | | | | 3 | 82800 | | 400 | 200 | |
| Dalhousie to Bellefune. | | | | | | | 1000 | | | | 7000 | | | | | 3 | 82800 | | 400 | 200 | |
| Totals..... | | | | | | | | | | | | | | | | | | | | | |
| <i>Gloucester Co.</i> | | | | | | | | | | | | | | | | | | | | | |
| Petit Rocher..... | | | | | | | | | | | 5000 | | 15 | | | | 62300 | 1500 | 5500 | | |
| Madisco..... | | | | | | | | | | | | | | | | | 100000 | 900 | | | |
| Bathurst..... | | | | | | | 3000 | | | | 300000 | | | | | | | | | | |
| New Brandon..... | | | | | | | | | | | | | | | | | 80500 | | 600 | | |
| Grand Anse..... | | | | | | | | | | | | | | | | | 150000 | 3500 | 1000 | | |
| Upper Caraqueet..... | 450 | 20 150 | | | | | | | 2 | | | | | | | | 400 | 120 | 400 | | |
| Caraquet..... | 500 | 600 100 800 | | | | | 500 | | 20 | | 15000 | | 8 | 3000 | 16 | | 13000 | 2500 | 1500 | | |
| Shippegan..... | 850 | 1800 1400 | | | | | | | | | 52700 | | | | | | 6350 | 3430 | 5000 | | |
| Miscou..... | 250 | 75 | | | | | | | | | 27000 | | | | | | 480 | 1900 | 1000 | | |
| Pokemouche..... | 100 | 50 100 | | | | | 2000 | 500 | | | 30000 | | 80 | | 5 | | 350 | 1600 | 1000 | | |
| Tracadie..... | 250 | 160 45 | | | | | 840 | 1200 | | | 94400 | | 25 | | | | 120 | 1500 | 40 | | |
| Totals..... | 2400 | 2580 1420 | 900 | 10 | 500 | 6340 | 1700 | 22 | | | 524100 | | 128 | 3000 | 21 | 714400 | 22400 | 16950 | 16040 | | |
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NEW BRUNSWICK—District No. 2—Continued.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Continued.

| District. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | | | | | KINDS OF FISH. | | | | | | | | | | | |
|---------------------------|---|----------|--------|-----|-------------------|-------|--------|-------|----------------|-----|-------------------|-------|------------------|--------------------------------|-------------------------|--------------------------|--------------------|--------------------|-------------------|--------------------------------|--------------------|-----------|-------------------------------------|--------|
| | Nets. | | Boats. | | Nets. | | Weirs. | | Smelt Nets. | | Lobster Traps. | | Salmon, barrels. | Salmon, fresh, in ice, lbs. | Salmon, smoked, lbs. | Salmon, in cans, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Herrings, smoked, in boxes. | Alewives, barrels. | Cod, cwt. | Cod Tongues and Scales, barrels. | |
| | No. | Tonnage. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | | | | | | | | | | | | Value. |
| <i>Northumberland Co.</i> | | | | | | | | | | | | | | | | | | | | | | | | |
| Negus, Tabusintac, &c. | 1 | 13 | 150 | 2 | 105 | 2250 | 125 | 11588 | 3900 | 127 | 3800 | 1000 | 1000 | 79704 | 50 | 1800 | 3000 | 200 | 500 | 500 | 500 | 500 | 500 | |
| Bay du Vin, &c. | 4 | 90 | 1550 | 9 | 150 | 4600 | 280 | 16000 | 16000 | 220 | 3600 | 6000 | 6000 | 123160 | 1000 | 70 | 400 | 200 | 50 | 500 | 500 | 500 | 500 | |
| Chatham | 8 | 400 | 12000 | 50 | 110 | 2200 | 110 | 8560 | 8560 | 337 | 11110 | 88000 | 200 | 88000 | 200 | 150 | 21790 | 762 | 762 | 762 | 762 | 762 | 762 | |
| North-West Miramichi. | | | | | | | | 1300 | 1625 | | | 21790 | | | | | | | | | | | | |
| South-West do | | | | | | | | 2580 | 1774 | 50 | 4000 | 60 | 48800 | 2200 | | | | | | | | | | |
| Totals | 13 | 503 | 18700 | 61 | 365 | 9050 | 515 | 40028 | 31550 | 50 | 4000 | 684 | 18510 | 7000 | 270 | 1800 | 3400 | 200 | 2524 | 1000 | 1000 | 1000 | 1000 | |
| <i>Kent Co.</i> | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Louis. | | | | | | | | | | | | | | | | | | | | | | | | |
| Richibucto | 5 | 80 | 2200 | 18 | 172 | 6880 | 436 | 9480 | 5069 | 110 | 4000 | 11000 | 11000 | 13000 | | 50 | 4000 | 230 | 175 | 175 | 175 | 175 | 175 | |
| Buctouche | | | | | | | | | | | | | | | | | | | | | | | | |
| Cocagne. | | | | | | | | | | | | | | | | | | | | | | | | |
| Canan River. | | | | | | | | | | | | | | | | | | | | | | | | |
| Totals | 5 | 80 | 2200 | 18 | 172 | 21611 | 1818 | 51584 | 26969 | 552 | 19150 | 27164 | 27164 | 19019 | | 177 | 1920 | 16200 | 2689 | 700 | 700 | 700 | 700 | 700 |

NEW BRUNSWICK—District No. 2—Continued.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Continued.

| District. | KINDS OF FISH—Concluded. | | | | | | | | | | | | | Fish Products. | | | | Value. | | | |
|---------------------------|--------------------------|------------------|---------------|---------------|----------------|-----------|-------------|------------------|-----------------|-----------------|-------------|-------------|---------------|-------------------|------------------|------------------|--------------------|--------|--------------------|-----------------------------|------------------------------------|
| | Hake, cwt. | Hake Sound, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bas, lbs. | Trout, lbs. | Frost fish, lbs. | Squid, barrels. | Floundery, lbs. | Smelt, lbs. | Perch, lbs. | Bel, barrels. | Oysters, barrels. | Loberster, tons. | Loberster, cans. | Fish Oil, Gallons. | | Fish (Guano, tons. | Fish used as bait, barrels. | Fish used as ma- nure, barrels. |
| <i>Northumberland Co.</i> | | | | | | | | | | | | | | | | | | | | | |
| Negruac, Talusintac, &c. | 100 | | | | | | 1000 | 40000 | | 20000 | 495768 | | 100 | | | 23720 | 500 | | | 1000 | |
| Bay du Vin, &c. | 300 | | 2000 | | 100 | | 300 | 150000 | | 10000 | 587305 | | 20 | 11000 | | 84400 | 50 | 110 | | 500 | 500 |
| Chatham | | | | | 6 | | 2000 | | | | 677000 | | 3 | 500 | | | | | | 40 | 8000 |
| North-West Miramichi. | | | | | | | 1100 | | | | | | 20 | | | | | | | | |
| South-West do | | | | | | | | | | | | | | | | | | | | | |
| Totals | 400 | | 2000 | | 106 | | 4400 | 190000 | | 30000 | 1760073 | | 143 | 11500 | | 110120 | 550 | 110 | 2040 | 9500 | |
| <i>Kent Co.</i> | | | | | | | | | | | | | | | | | | | | | |
| St. Louis | 700 | 600 | | | 7 | | 1800 | 6800 | | 2500 | 238000 | 9000 | 126 | 200 | | 250000 | 250 | 125 | 3000 | | |
| Richibucto. | 2700 | 38 | | | 10 | 2400 | 1800 | | | 9000 | 318400 | 2700 | 214 | 265 | | 237424 | 250 | | 900 | | |
| Buctouche | 112 | 110 | 4 | | | 300 | 500 | 2872 | | 12000 | 450703 | | 30 | 1120 | 7½ | 73440 | 67 | | 1065 | 124 | |
| Coxagne | 80 | | 100 | | | 300 | 250 | 6000 | | | 110500 | | 50 | 575 | | 214368 | 150 | | 2400 | | |
| Canan River | | | | | | | 10000 | | | | | | | | | | | | | | |
| Totals. | 3592 | 749 | 104 | | 17 | 3000 | 12560 | 15672 | | 23500 | 906569 | 11700 | 420 | 2160 | 7½ | 775232 | 757 | 125 | 7765 | 124 | |

NEW BRUNSWICK—District No. 2—Continued.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Continued.

| DISTRICTS. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | KINDS OF FISH. | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|--------|--------|--------|----------|--------|-------------------|--------|----------------|--------|-------------------|--------|------------------|--------|--------------------------------|--------|-------------------------|--------|--------------------------|--------|--------------------|--------|--------------------|--------|-------------------|--------|--------------------------------|--------|--------------------|--------|-----------|--------|-------------------------------------|--------|--|
| | Vessels. | | Boats. | | Nets. | | Weirs. | | Smelt Nets. | | Lobster Traps. | | Salmon, barrels. | | Salmon, fresh, in ice, lbs. | | Salmon, smoked, lbs. | | Salmon, in cans, lbs. | | Mackerel, barrels. | | Mackerel, in cans. | | Herring, barrels. | | Herrings, smoked, in boxes. | | Alewives, barrels. | | Cod, cwt. | | Cod Tongues and Sounds, barrels. | | |
| | No. | Value. | No. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | |
| <i>Westmorland Co.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shediac and Botsford. | 600 | 9000 | 1040 | 10000 | 10000 | 8000 | 150 | 3000 | 20000 | 12000 | | | | | 400 | | 400 | | | | 70 | 1440 | | 10000 | 2000 | | | | | | | 20 | | | |
| West Sackville. | 24 | 650 | 48 | 3900 | 900 | 900 | 18 | 360 | 33 | 35 | | | | | 550 | | 550 | | | | 5 | | | 2400 | 750 | | | | | | 700 | | | | |
| Dorchester, &c. | 32 | 1280 | 74 | 9000 | 9000 | 2040 | | | | | | | | | 4100 | | 4100 | | | | | | | | | | | | | | | | | | |
| Totals. | 656 | 10930 | 1122 | 22900 | 22900 | 10940 | 168 | 3860 | 20085 | 12035 | | | | | 5050 | | 5050 | | | | 75 | 1140 | | 12400 | 2750 | | | | | | 700 | | 20 | | |
| Grand Totals. | 59 | 1157 | 3760 | 219 | 3564 | 84991 | 7370 | 217017 | 139811 | 52 | 9200 | 1715 | 47600 | 99899 | 90249 | 60 | 1016197 | 2400 | 6280 | 2290 | 45520 | | 57110 | 2350 | | | | | | 6723 | | 57490 | | 20 | |
| District No. 2. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NEW BRUNSWICK—District No. 2—Continued.

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Concluded.

| DISTRICTS. | KINDS OF FISH—Concluded. | | | | | | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | |
|-----------------------|--------------------------|-------------------|---------------|---------------|----------------|-----------|-------------|------------------|-----------------|-----------------|--------------|-------------|----------------|-------------------|-----------------|-----------------|--------------------|-------------------|-----------------------------|--------|-------------------------------|
| | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bas, lbs. | Trout, lbs. | Frost fish, lbs. | Squid, barrels. | Flounders, lbs. | Smelts, lbs. | Perch, lbs. | Kels, barrels. | Oysters, barrels. | Lobsters, tons. | Lobsters, cans. | Fish Oil, gallons. | Fish (Guns, tons. | Fish used as bait, barrels. | | Fish used as manure, barrels. |
| Westmoreland Co. | | | | | | | | | | | | | | | | | | | | | |
| Shediac and Botsford. | | | | | | 1000 | 1000 | 8000 | 30 | 2000 | 500000 | | 150 | 50 | 200 | 682704 | | | 2628 | 1000 | 165,700 28 |
| West Sackville | | | | | 250 | 100 | 900 | 5000 | | | 78210 | | 10 | | 15 | | | | 600 | 400 | 22,260 10 |
| Dorchester, &c. | | | | | 336 | | | | | | | | | | | | | | | | 4,180 00 |
| Totals. | | | | | 586 | 1100 | 1900 | 13000 | 30 | 2000 | 587210 | | 160 | 50 | 215 | 682704 | | | 3228 | 1400 | 193,140 38 |
| Grand Totals. | 6392 | 3329 | 1524 | 2900 | 719 | 4600 | 26200 | 220372 | 52 | 55500 | 3778952 | 11700 | 851 | 16710 | 2464 | 2365256 | 23707 | 235 | 30383 | 27264 | 1,445,194 82 |
| District No. 2. | | | | | | | | | | | | | | | | | | | | | |

RECAPITULATION of the Yield and Value of the Fisheries in District No. 2, New Brunswick, for the Year 1890.

| Kinds of Fish. | | Quantity. | Price. | Value. |
|------------------------|--------|-----------|---------|--------------|
| | | | \$ cts. | \$ cts. |
| Salmon | Brls. | 60 | 16 00 | 960 00 |
| do fresh | Lbs. | 1,016,197 | 0 20 | 203,239 40 |
| do smoked | Lbs. | 2,400 | 0 20 | 480 00 |
| do in cans | Lbs. | 6,280 | 0 15 | 942 00 |
| Mackerel | Brls. | 2,200 | 15 00 | 33,000 00 |
| do in cans | Lbs. | 45,520 | 0 12 | 5,462 40 |
| Herring | Brls. | 57,110 | 4 00 | 228,440 00 |
| do smoked | Boxes | 2,950 | 0 25 | 737 50 |
| Alewives | Brls. | 6,723 | 4 50 | 30,253 50 |
| Cod | Cwt. | 57,490 | 4 00 | 229,960 00 |
| Cod Tongues and Sounds | Brls. | 26 | 10 00 | 260 00 |
| Hake | Cwt. | 6,392 | 4 00 | 25,568 00 |
| do Sounds | Lbs. | 3,329 | 1 00 | 3,329 00 |
| Haddock | Cwt. | 1,524 | 4 00 | 6,096 00 |
| Halibut | Lbs. | 2,900 | 0 10 | 290 00 |
| Shad | Brls. | 719 | 10 00 | 7,190 00 |
| Bas | Lbs. | 4,600 | 0 06 | 276 00 |
| Trout | Lbs. | 26,200 | 0 10 | 2,620 00 |
| Frost fish | Lbs. | 220,372 | 0 04 | 8,814 88 |
| Squid | Brls. | 52 | 4 00 | 208 00 |
| Flounders | Lbs. | 55,500 | 0 10 | 5,550 00 |
| Smelts | Lbs. | 3,778,952 | 0 06 | 226,737 12 |
| Perch | Lbs. | 11,700 | 0 03 | 351 00 |
| Eels | Brls. | 851 | 10 00 | 8,510 00 |
| Oysters | Brls. | 16,710 | 3 00 | 50,130 00 |
| Lobsters | Cans | 2,365,256 | 0 12 | 283,830 72 |
| do | Tons | 2463 | 30 00 | 7,395 00 |
| Fish Oil | Galls. | 23,707 | 0 40 | 9,482 80 |
| do Guano | Tons | 235 | 25 00 | 5,875 00 |
| do as bait | Brls. | 30,383 | 1 50 | 45,574 50 |
| do as manure | Brls. | 27,264 | 0 50 | 13,632 00 |
| Total for 1890 | | | | 1,445,194 82 |

NUMBER and Value of Vessels, Boats, Nets, Weirs, Traps, &c., engaged in the Fisheries in District No. 2, New Brunswick, in the Year 1890.

| Material. | Value. | Total. |
|---------------------------------------|------------|------------|
| | \$ cts. | \$ cts. |
| 59 vessels (aggregate tonnage, 1,157) | 37,600 00 | |
| 3,564 boats | 84,991 00 | |
| 217,017 fathoms nets | 139,311 00 | |
| 52 weirs | 9,200 00 | |
| 1,715 smelt nets | 47,600 00 | |
| 99,899 lobster traps | 90,249 00 | |
| 2 mackerel traps | 2,000 00 | 410,951 00 |
| 8 salmon and mackerel canneries | 3,500 00 | |
| 106 lobster factories | 98,500 00 | |
| 41 freezers | 40,000 00 | |
| 82 ice houses | 15,400 00 | |
| 10 smoke houses and fixtures | 2,500 00 | |
| 4 oil presses with fixtures | 450 00 | |
| | | 160,350 00 |
| Total | | 571,301 00 |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c., District No. 3, Province of New Brunswick—Concluded.

| District No. 3. | KINDS OF FISH. | | | | | | | | | | | | FISH PRODUCTS. | | VALUE. | | | |
|-----------------|----------------|----------------------------------|---------------|------------|---------------|---------------|----------------|-----------|-------------|----------------|-------------|----------------|----------------|-----------------|--------|--------------------|-----------------------------|------------|
| | Cod, cwt. | Cod Tongues and Sounds, barrels. | Pollock, cwt. | Hake, cwt. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Bas, lbs. | Trout, lbs. | Pickarel, lbs. | Perch, lbs. | Eels, barrels. | Sardines, hds. | Lobsters, tons. | | Fish Oil, gallons. | Fish used as bait, barrels. | |
| Counties. | Albert | 10 | | | | | 10 | | 18000 | | 500 | | | | | | 645 00 | |
| | Victoria | | | | | | 100 | | 12000 | | | | | | | | 3,015 00 | |
| | Carleton | | | | | | 50 | | 14000 | | | 10 | | | | | 3,000 00 | |
| | York | | | | | | 100 | 4000 | 7500 | 8000 | 4000 | 10 | | | | | 6,290 00 | |
| | Sunbury | | | | | | 84 | 600 | 1000 | 28000 | 4000 | 30 | | | | | 8,710 00 | |
| | Queen's | | | | | | 778 | 2400 | | 68700 | 6000 | 70 | | | | | 18,525 00 | |
| | King's | | | | 25 | | 275 | 70000 | 200 | 40000 | | 2 | | | | | 17,782 40 | |
| | St. John | 1203 | 23 | 520 | 500 | 2200 | 350 | 3000 | | | | 90 | 50 | 1104 | 750 | 600 | 133,186 70 | |
| | Totals | 1213 | 23 | 520 | 525 | 2200 | 350 | 4387 | 77000 | 38500 | 143700 | 14500 | 212 | 50 | 1104 | 750 | 600 | 191,104 10 |

RECAPITULATION of the Yield and Value of the Fisheries of District No. 3— New Brunswick.

| Kinds of Fish. | | Quantity. | Price. | Value. |
|-----------------------------|--------|-----------|--------------|------------|
| | | | \$ cts. | \$ cts. |
| Salmon, fresh..... | Lbs. | 68,258 | 0 20 | 13,651 60 |
| Herring..... | Brls. | 6,021 | 4 00 | 24,084 00 |
| do frozen..... | No. | 120,000 | 60c. per 100 | 720 00 |
| do smoked*..... | Boxes | 7,000 | 0 50 | 3,500 00 |
| Alewives..... | Brls. | 13,714 | 4 50 | 61,713 00 |
| Cod..... | Cwt. | 1,213 | 4 50 | 6,458 50 |
| Cod Tongues and Sounds..... | Brls. | 23 | 10 00 | 230 00 |
| Pollock..... | Cwt. | 520 | 4 00 | 2,080 00 |
| Hake..... | Cwt. | 525 | 4 00 | 2,100 00 |
| Haddock..... | Cwt. | 2,200 | 4 00 | 8,800 00 |
| Halibut..... | Lbs. | 350 | 0 10 | 35 00 |
| Shad..... | Brls. | 4,397 | 10 00 | 43,970 00 |
| Bass..... | Lbs. | 77,000 | 0 06 | 4,620 00 |
| Trout..... | Lbs. | 36,500 | 0 10 | 3,650 00 |
| Pickarel..... | Lbs. | 143,700 | 0 06 | 8,622 00 |
| Perch..... | Lbs. | 14,500 | 0 03 | 435 00 |
| Eels..... | Brls. | 212 | 10 00 | 2,120 00 |
| Sardines..... | Hhds. | 50 | 4 00 | 200 00 |
| Lobsters..... | Tons. | 110½ | 30 00 | 3,315 00 |
| Fish oil..... | Galls. | 750 | 0 40 | 300 00 |
| Fish used as bait..... | Brls. | 600 | 2 50 | 1,500 00 |
| Total for 1890..... | | | | 191,104 10 |

* NOTE.—The smoked herring were put up in large boxes at 50 cents.

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—
New Brunswick for the Year 1890.

| COUNTIES. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | | | KINDS OF FISH. | | | | | | |
|-------------------|--|----------|--------|------|-------------------|--------|----------|--------|-------------|--------|----------------|--------|-----------------------------|------------------|--------|----|---------|
| | Vessels. | | Boats. | | Nets. | | Weirs. | | Smelt Nets. | | Lobster Traps. | | Salmon, fresh, in ice, lbs. | | | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. | | Salmon, barrels. | | | |
| | | | | | | | | | | | | | | | | | |
| Ristigouche..... | 41 | 574 | 21700 | 140 | 125 | 1250 | 195 | 23240 | 15540 | 80 | 3300 | 1650 | 139144 | | | | |
| Gloucester..... | 13 | 503 | 13700 | 61 | 1627 | 42140 | 3720 | 79245 | 54663 | 5200 | 307 | 6500 | 42400 | 49140 | | | |
| Northumberland... | 5 | 80 | 2200 | 18 | 365 | 9050 | 515 | 40028 | 31550 | 4000 | 684 | 18310 | 7000 | 361544 | | | |
| Kent..... | | | | | 791 | 21621 | 1818 | 51584 | 24609 | | 552 | 13150 | 27164 | 19029 | | | |
| Westmorland..... | | | | | 636 | 10950 | 1122 | 22300 | 10940 | | 168 | 3360 | 20035 | 5050 | | | |
| Albert..... | | | | | | | | | | | 2 | 200 | | 1600 | | | |
| St. John..... | 18 | 357 | 7140 | 75 | 251 | 6270 | 502 | 76790 | 57580 | 28 | 10500 | 4028 | 25296 | 25296 | | | |
| King's..... | | | | | 70 | 700 | 215 | 5760 | 2390 | | | | | 12212 | | | |
| Queen's..... | 1 | 12 | 150 | 4 | 245 | 3870 | 490 | 13850 | 4870 | | | | | 1820 | | | |
| Sunbury..... | 1 | 12 | 150 | 4 | 87 | 880 | 144 | 3000 | 1500 | | | | | 330 | | | |
| York..... | | | | | 100 | 2250 | 200 | | | | | | | 18000 | | | |
| Carleton..... | | | | | 44 | 540 | 88 | 240 | 350 | | | | | 5000 | | | |
| Victoria..... | | | | | 20 | 200 | 40 | 700 | 500 | | | | | 4000 | | | |
| Charlotte..... | 72 | 1236 | 31450 | 311 | 1010 | 67750 | 1476 | 59511 | 44744 | 250 | 99080 | | 14666 | 350 | | | |
| Totals..... | 151 | 2804 | 76490 | 614 | 5391 | 167451 | 10525 | 376808 | 251245 | 332 | 118980 | 1775 | 47600 | 118593 | 107060 | 60 | 1048005 |

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—
New Brunswick—Concluded.

| COUNTIES. | KINDS OF FISH—Concluded. | | | | | | | | | | FISH PRODUCTS. | | | | | VALUE. | |
|---------------------|--------------------------|------------------|-----------------|-----------------|--------------|----------------|-------------|----------------|----------------|-------------------|-----------------|-----------------|------------------|-------------------|------------------------------|--------|---------------------------------|
| | Trout, lbs. | Frost fish, lbs. | Squid, barrels. | Flounders, lbs. | Smelts, lbs. | Pickarel, lbs. | Perch, lbs. | Eels, barrels. | Sardines, hhd. | Oysters, barrels. | Lobsters, tons. | Lobsters, cans. | Fish oil, galls. | Fish (tuna, tons. | Fish, used as bait, barrels. | | Fish, used as man-ure, barrels. |
| Ristigouche..... | 1000 | | | | 7000 | | | | | | 3 | 82800 | | | 400 | | 40,266 80 |
| Gloucester..... | 6340 | 1700 | 22 | | 524100 | | | 128 | | 3000 | 21 | 714400 | 22400 | | 16950 | 16040 | 644,683 20 |
| Northumberland..... | 4460 | 190000 | | 30000 | 1760073 | | | 143 | | 11500 | | 110120 | 550 | 110 | 2040 | 9500 | 286,601 58 |
| Kent..... | 12560 | 13672 | | 23500 | 968563 | | 11700 | 420 | | 2160 | 74 | 775232 | 757 | 125 | 7765 | 124 | 280,602 86 |
| Westmorland..... | 1900 | 13000 | 30 | 2000 | 578210 | | | 160 | | 50 | 215 | 682704 | | | 3228 | 1400 | 193,140 38 |
| Albert..... | 1800 | | | | | | | | | | | | | | | | 133,136 70 |
| St. John..... | | | | | | | | 90 | 50 | | 1104 | | 750 | | 600 | | 17,782 40 |
| King's..... | 200 | | | | 40000 | | | 2 | | | | | | | | | 18,525 00 |
| Queen's..... | | | | | 66700 | | 6000 | 70 | | | | | | | | | 8,710 00 |
| Sunbury..... | 1000 | | | 4000 | 29000 | | 4000 | 30 | | | | | | | | | 6,290 00 |
| York..... | 7500 | | | | 8000 | | 4000 | 10 | | | | | | | | | 3,000 00 |
| Carleton..... | 14000 | | | | | | | 10 | | | | | | | | | 3,015 00 |
| Victoria..... | 12000 | | | | | | 500 | | | | | | | | | | |
| Charlotte..... | 12200 | 4300 | 47 | 23500 | 8000 | 1500 | | | 18770 | | 657 | | 72724 | 100 | 16176 | 6476 | 1,062,756 10 |
| Totals..... | 74900 | 224672 | 99 | 79000 | 3783652 | 145200 | 26200 | 1063 | 18820 | 16710 | 1014 | 2365256 | 97181 | 335 | 47159 | 33740 | 2,699,055 02 |

**RECAPITULATION of the Yield and Value of the Fisheries of the whole Province of
New Brunswick, 1890.**

| Kinds of Fish. | Prices. | Quantity. | Value. | Total. |
|---|-------------|------------|------------|--------------|
| | \$ cts. | | \$ cts. | \$ cts. |
| Salmon.....Brls. | 16 00 | 60 | 960 00 | |
| do fresh in ice.....Lbs. | | 1,084,805 | 216,996 00 | |
| do smoked.....Lbs. | 0 20 | 2,400 | 480 00 | |
| do in cans.....Lbs. | 0 15 | 6,280 | 942 00 | 219,378 00 |
| Mackerel.....Brls. | 15 00 | 3,877 | 58,155 00 | |
| do in cans.....Lbs. | 0 12 | 45,520 | 5,462 40 | 63,617 40 |
| Herring.....Brls. | 4 00 | 74,401 | 297,604 00 | |
| do smoked.....Boxes | | 1,314,136 | 330,284 00 | |
| do frozen.....No. | 60c. p. 100 | 13,700,000 | 82,200 00 | 710,088 00 |
| Alewives.....Brls. | 4 50 | 20,577 | | 92,596 50 |
| Cod.....Cwt. | | 77,689 | 311,362 50 | |
| Cod Tongues and Sounds.....Brls. | 10 00 | 61 | 610 00 | 311,972 50 |
| Pollock.....Cwt. | 4 00 | 18,959 | | 75,836 00 |
| Haddock.....do | 4 00 | 13,615 | | 54,460 00 |
| Hake.....do | 4 00 | 28,528 | 114,112 00 | |
| do Sounds.....Lbs. | 1 00 | 27,591 | 27,591 00 | 141,703 00 |
| Halibut.....Lbs. | 0 10 | 103,250 | | 10,325 00 |
| Shad.....Brls. | 10 00 | 5,116 | | 51,160 00 |
| Bass.....Lbs. | 0 06 | 81,600 | | 4,896 00 |
| Trout.....Lbs. | | 74,900 | | 8,710 00 |
| Flounders.....Lbs. | 0 10 | 79,000 | | 7,900 00 |
| Smelts.....Lbs. | | 3,786,952 | | 227,537 12 |
| Pickrel.....Lbs. | | 145,200 | | 8,772 00 |
| Perch.....Lbs. | 0 03 | 26,200 | | 786 00 |
| Frost Fish or Tom Cod.....Lbs. | | 224,672 | | 9,244 88 |
| Eels.....Brls. | 10 00 | 1,063 | | 10,630 00 |
| Squid.....do | 4 00 | 99 | | 396 00 |
| Sardines.....Hhds. | | 18,820 | 94,050 00 | |
| do in cans.....Cases. | 4 50 | 400 | 1,800 00 | 95,850 00 |
| Oysters.....Brls. | 3 00 | 16,710 | | 50,130 00 |
| Clams.....Lbs. | | | | 9,650 00 |
| Lobsters in cans.....Lbs. | 0 12 | 2,365,256 | 283,830 72 | |
| do.....Tons. | | 1,014 | 50,130 00 | 333,960 72 |
| Fish Oil.....Galls. | 0 40 | 97,181 | | 38,872 40 |
| do as bait.....Brls. | | 47,159 | | 71,338 50 |
| do as manure.....do | 0 50 | 33,740 | | 16,870 00 |
| do guano.....Tons. | 25 00 | 335 | | 8,375 00 |
| do used in Dist. No. 1, not included above..... | | | | 64,000 00 |
| Total for 1890..... | | | | 2,699,065 02 |
| Total for 1889..... | | | | 3,067,039 04 |
| Decrease..... | | | | 367,984 02 |

NOTE.—Where prices are not given. Inspectors used different prices.

TABLE showing the value of Vessels, Boats, Nets, &c., engaged in the fisheries of
New Brunswick with approximate value of other fishing material not
 included in the Returns, 1890.

| Articles. | Value. | Total Value. |
|-------------------------------------|---------|--------------|
| | \$ | \$ |
| 151 vessels, 2,804 tons..... | 76,490 | |
| 5,391 boats..... | 167,451 | |
| 376,868 fathoms of nets..... | 251,245 | |
| 332 weirs..... | 118,980 | |
| 2 mackerel traps..... | 2,000 | |
| 1,715 smelt nets..... | 47,600 | |
| | | 663,766 |
| 118,593 lobster traps..... | 107,060 | |
| 106 lobster factories..... | 93,500 | |
| | | 205,560 |
| 8 fish canneries..... | 3,500 | |
| 2 sardine factories..... | 6,500 | |
| 605 trawls..... | 16,100 | |
| 41 freezers..... | 40,000 | |
| 85 ice houses..... | 16,150 | |
| 597 smoke houses with fixtures..... | 186,545 | |
| 87 oil presses with fixtures..... | 6,624 | |
| 1 fertilizer factory..... | 40,000 | |
| | | 315,419 |
| | | 1,184,745 |

STATEMENT of the Number of Men engaged in New Brunswick.

| | |
|-------------------------|--------|
| Sailors..... | 614 |
| Fishermen in boats..... | 10,525 |
| Total..... | 11,139 |

APPENDIX C.

PRINCE EDWARD ISLAND.

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND FOR 1890, BY
INSPECTOR ED. HACKETT.

TIGNISH, P.E.I., 31st December, 1890.

Honourable CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report on the fisheries of the Province of Prince Edward Island for the year 1890; also tabulated statements giving product and values by counties, together with an estimate of capital employed in the fisheries of the Province the last calendar year.

The returns show the gratifying increase in value of \$154,678.36 over the year 1889, as follows:—

| | |
|---|----------------------|
| Total value of Prince Edward Island fisheries 1889... | \$ 886,430 84 |
| do do do 1890... | 1,041,109 20 |
| Increase..... | <u>\$ 154,678 36</u> |

The increase is made up as follows:—

| | |
|---------------------|---------|
| Salmon, lbs..... | 3,300 |
| Mackerel, brls..... | 4,387 |
| do canned, lbs..... | 47,276 |
| Herring, brls..... | 13,562 |
| Alewives, brls..... | 54 |
| Halibut, lbs..... | 1,692 |
| Trout, lbs..... | 6,280 |
| Eels, brls..... | 1,198 |
| Lobsters, lbs..... | 355,847 |

The decreases are:—

| | |
|--------------------|--------|
| Cod, cwt..... | 4,764 |
| Hake, cwt..... | 18 |
| Haddock, cwt..... | 130 |
| Bass, lbs..... | 1,400 |
| Smelts, lbs..... | 20,770 |
| Oysters, brls..... | 6,054 |

The season opened early and promised to be remarkably favourable. High winds and stormy weather in the month of June, however, retarded operations considerably on the north side of the Island, causing great loss of outfit, especially in the lobster fishery. Spring herring were very abundant and were noticed to be of superior quality. The quantity taken is generally used as bait in the lobster and mackerel fisheries, and securing a supply early and at small cost is of great advantage to fishermen. Lobster fishing commenced as soon as the ice left the coast; canneries on the south side packing fish as early as the 1st of May. Ninety-eight factories were in operation, being seventeen more than during the previous year. About 96,000 traps were used, an increase of 19,000 as compared with the year 1889. Lobsters

were plentiful and of fair size, showing in this respect a marked improvement over the last three years. The increase in the catch of 355,847 pounds over 1889, cannot, however, be considered large, in view of the fact that seventeen more factories were in operation last season. The number of traps was also largely increased, and the production per trap does not exceed that of 1889. Stormy weather in June injuriously affected the fishery on the north side of the Island, thereby materially reducing the output for the year. Codfishing was not prosecuted with energy, and the catch shows a decrease of 4,764 cwt. This may be attributed to a scarcity of bait, the fish not remaining in shore for any length of time. Mackerel shows an increase of 4,387 brls. This valuable fish was not very plentiful, but the quality being excellent and prices high, the fishery was eagerly pursued. The fish did not "school up" to any extent; consequently seining proved a failure. Hook and line and gill-net fishing proved more successful and were actively prosecuted while the fish remained on the coast.

Oysters show a decrease of 6,054 brls. This falling off may be attributed to the cold and windy weather prevailing in the months of October and November, and not to any scarcity of oysters. The short catch had the effect of increasing the price, and those engaged in the industry are, I understand, well satisfied with the season's operations.

Smelts show a decrease of 20,770 lbs. This fishery has not come up to the expectations of those who engaged in it last year. The early closing of navigation and uncertain trips of the winter steamer by which the fish are sent to market, had a depressing effect on the fishery, resulting in the falling off indicated in the returns.

The minor fisheries show a slight improvement. Salmon which are not taken in the Island rivers, but in nets on the coast, were plentiful in the vicinity of St. Peter's Bay, and show an increase of 3,300 lbs. Sea trout were fairly plentiful in some of the rivers and the increase of 6,280 lbs. as shown by the returns, may be considered satisfactory, as indicating a better condition of the rivers and streams.

The season's operations generally may be considered the most satisfactory since 1886; all the principal branches of the coast and inland fisheries showing an encouraging upward tendency, giving promise of such results in the future as must be gratifying to your Department. Other matters, more directly affecting each branch of the fisheries of this Province, are referred to in the body of this report.

HERRING.

As already noted the principal herring fishery of the Province is known as the "spring herring." The fish come unto the coast from the 1st to the 15th May, and are taken in large quantities by gill nets at all points. When they first arrive, the fish are of good quality; and if properly cured and packed, would make a fairly good article of food. Very little attention is paid to them however, as they are principally required for bait, and are therefore cured in a very careless and slovenly way. At this season of the year, fishermen are busy preparing for the lobster fishery, and have no time to properly attend to herring; as a result, the fishery is neglected and any increase in the supply is caused by the demand for bait. Last spring they were most abundant; large quantities were landed all around the coast, and fishermen had no difficulty in providing a full supply of bait. Other schools of herring strike the coast during the summer and the autumn months. The latter are large and fat fish, and if properly cured would equal some of the best brands of pickled herring now on the markets. Little or no attention is paid to them however; and what might prove to be a lucrative industry is wholly neglected, through the lack of enterprise on the part of fishermen and dealers. The report of the delegates, sent in 1889, to enquire into the herring fisheries of Scotland and Holland, contains some valuable information with regard to this fishery, and should have the effect of introducing great changes in the pickled herring industry of Canada.

CODFISH.

This fishery shows a falling off of 4,764 cwt. as compared with the previous year. Cod were scarce in the coast waters of the Province during the whole season. This was due in a great measure to the scarcity of bait. It is evident that cod in the summer months leave their winter haunts and come into shallow water in pursuit of food. They prey largely upon the young of herrings, alewives, lobsters, trout, &c., and any cause that will deplete the waters of these fisheries will have the effect of reducing the quantity of cod frequenting our coast. During the past season, fresh bait for cod was in limited supply, and fishermen, as a result, were unable to prosecute the fishery with success. For many years past, the fishermen of Gloucester County, New Brunswick, have crossed over from their own shores to prosecute the cod fishery in the vicinity of North Cape, in this Province. These men use large, strongly built, well equipped boats, and have met with considerable success in this fishery. Last season, the usual numbers were to be seen on the fishing grounds from North Cape to Cascumpec, and as they fit out exclusively for cod-fishing, succeeded much better than the local fishermen, who divide their time between mackerel, cod, &c.

MACKEREL.

The mackerel fishery was prosecuted with vigour, and it is pleasing to notice an increase of 4,387 barrels. Fishing commenced early; some fish of large size being taken near Souris towards the end of May. The fish were of excellent quality and commanded high prices; a few barrels being sufficient to realize a fair summer's wages for the lucky individual who succeeded in catching them. Fishing with seines was not prosecuted to any extent, mackerel did not school as in former years, and seining had to be abandoned for the more primitive hook and line fishery. Gill nets were used at some places, but this mode of fishing has not yet become general, although large additions are being made to the number of fathoms used each year. In 1889, there was a great falling off in the catch on that part of the coast extending from East Point to St. Peter's Bay, and the fishermen fearing that this valuable fishery was about being destroyed, commenced an agitation against the use of gill nets. I am glad to be able to report a marked improvement in the catch at this place last season, which will, no doubt, have a great effect in allaying the fears of those interested. Mackerel are very erratic in their habits. Years of great plenty have been followed by seasons of remarkable scarcity. The fish approach our shores in the spring either for the purpose of spawning or in search of food, but as many of the fish have spawned before coming into the Gulf of St. Lawrence, it is apparent that their main purpose is to find food. The disappearance of the small fishes, their natural prey, may cause mackerel to leave their old feeding grounds for a time only to return again in greater numbers. The mackerel is, however, a wandering, unsteady fish, remarkably timid, and anything unusual occurring in the vicinity of its old haunts has, no doubt, the effect of driving it away. Fishermen allege that the purse seine, by breaking up the schools and scaring the fish off their feeding grounds has caused the present scarcity, and that the use of gill nets, if persisted in, will eventually destroy this valuable fishery. The decline of this fishery has been very rapid and as a consequence those interested are becoming alarmed and ask that some restriction be placed upon the use of seines and nets. The slight improvement this season indicates a favourable change, and another year may show even better results.

LOBSTERS.

This fishery opened early and was prosecuted with great vigor all through the season. The canneries on the south side of the Island, being favoured with fair weather and an abundance of lobsters, were very successful. On the north side, owing to heavy storms in June, the pack was not so large, and fishermen suffered heavy loss in traps and gear. *Ninety-eight factories* were in operation, being an

increase of seventeen over the previous year. About ninety-six thousand traps were used, an increase of nineteen thousand. The production per trap was $25\frac{1}{2}$ one-pound cans, or about $1\frac{1}{2}$ pounds less per trap than in 1889. This falling off was due, no doubt, to the poor fishing on the north side.

The fishery gave unmistakable signs of improvement, lobsters being more plentiful and of better quality than for the last three years. The shortened fishery season proved of benefit in increasing the quantity of lobsters; but the size continues small, and it is possible that many years must elapse before it is fully restored. By reports received from several factories, I estimate that it took six lobsters, on an average, to fill a one-pound can. The size regulation is difficult to enforce; fishermen now kill the undersized lobsters at the traps, when they find they cannot land them at the factories. This is done to prevent the small fish returning to the bait, thus giving additional trouble to the men in liberating them alive each time they haul the traps. To stop this vicious practice will be found very difficult, as it is carried on beyond the reach of the officers of the Department. It was hoped, in 1887, that those interested in the lobster industry, with the experience of the past before them, would see the necessity of protecting this valuable fishery and render the Department all possible assistance in endeavouring to restore it. So far as assisting to carry out the size regulation is concerned, this hope has not been realized; both cannery and fishermen being disposed to continue the same reckless destruction of undersized fish, asserting that the present close season affords sufficient protection. It is needless for me here to state what is now so well established with regard to this fishery. Experience the world over has shown that lobsters, unless protected by wise regulations against the ingenious and fatal appliances of the fishermen, are easily exterminated. Our own decimated fishery affords ample proof of this, and, although the present regulations have, no doubt, checked the decline, I fear it will be found extremely difficult to restore its productiveness.

OYSTERS.

Oysters show a decrease of 6,054 barrels; the total production for the year being 35,203 barrels, against 41,257 barrels in 1889. The unusually stormy season caused much loss of time in the months of October and November, thereby reducing the output. The cool season, however, favoured shipments; the products reaching the markets in good order and realizing the highest prices obtained for many years. This industry runs pretty much on the same lines each year. The shippers here supply the same customers from year to year; the product being chiefly sold in the Provinces of Quebec and Ontario. The principal fishery is carried on at Richmond Bay, Prince County. The beds of this bay are extremely productive, and although continually raked for years, show no signs of exhaustion; the product this season both in quantity and quality being equal to any former one. The Grand River beds have also produced well this year, and are reported as being in good condition. At the Narrows, however, there is some complaint that the size is decreasing, indicating that the beds are being overfished. The beds in the rivers of Queen's County are becoming less productive each year, and are now fished principally for home consumption. To preserve these beds, drastic measure will be necessary, and it appears to me that nothing short of closing the fishery for a number of years will have the effect of restoring them. The only regulation in force in this Province at present is a close season, extending from the 1st of June to the 15th of September in each year. This regulation, while no doubt of great benefit as a protective measure, cannot be considered sufficient to preserve the beds. There should also be a regulation fixing a minimum size, under which no oysters should be landed. At present, large quantities of immature oysters are brought to the shore by fishermen, and as shippers will not buy them, are left in heaps to rot. Such reckless waste should not be allowed. The same may be said with regard to fishing through the ice, in winter. This mode of fishing is now largely carried on, and where prosecuted, must result in the destruction of the beds. The fisherman, by cutting a suitable hole in the ice, immediately over an oyster bed, and using a single long-handled rake or drag, is

enabled to raise and deposit on the ice, large quantities of oysters of all sizes, together with mud, &c., from the bed. After selecting all that are marketable, the others are left to freeze and die. This may not be considered any more objectionable than landing immature oysters in the fishing season, and allowing them to rot; but the greatest injury is caused by the dead oysters, mud, &c., falling back on the bed when the ice melts in the spring, thus smothering any live oysters which may have escaped the fishermen's drag, and utterly destroying the bed. I would earnestly recommend that a regulation prohibiting the fishing of oysters through the ice be adopted as soon as possible.

Oyster culture is now extensively carried on in several of the neighbouring States, as well as in the principal countries of Europe. Oyster farming in those places has become an established industry; the seed being planted and the crop raised with the same regularity, and with as great chances of success as attends farming on the land. The oyster being enormously fecund, increases very rapidly; the spat is sent out by the half million, and if the conditions be favourable, matures very quickly. The bays and estuaries of this Province afford ample opportunities to the enterprising private culturist who may desire to embark in oyster farming; and as the natural beds cannot be expected to always yield the necessary supply, this branch of industry would, in a few years, become profitable. Definite action with regard to this important matter should be taken at an early day. A system that has produced such marvellous results in other countries should succeed here; and would, if adopted, eventually prove a source of great national wealth.

TROUT.

Trout shows an increase of 6,280 pounds. In some of the rivers, trout were more plentiful than last year, while in others no improvement has been noticed. The best fishing was at North Lake, Naufrage and Fortune Rivers, King's County. Angling for sea trout affords excellent sport and large numbers of local sportsmen, as well as others, in search of recreation from the neighbouring provinces and the United States, resort to the Island streams during the summer months. It is therefore important that the rivers should be properly protected, and a more than ordinary effort in that direction was made this year. Special guardians were employed on the principal rivers, resulting in the seizure of several nets which were being used by poachers. This practice of netting the rivers for trout has been long carried on here and will be found difficult to stop. One poacher was detected with his net in the stream, and fined the maximum amount.

Mill owners were notified that they would be prosecuted, if sawdust and other mill rubbish was allowed to fall into the streams. As a rule, they endeavoured to comply with the regulation. The officers generally have been vigilant in watching the streams, and it is to be hoped that good results will follow.

SALMON.

This fine fish shows an increase of 3,300 pounds.

Salmon were reported as being plentiful around the coast, especially in the vicinity of St. Peter's Bay, where the quantity appearing in the returns was taken. They were also reported as being abundant in the principal rivers of the Province during the autumn months to spawn. Poachers gave considerable trouble on the Dunk River in October and November, and although well watched by the wardens, no doubt succeeded in taking some fish. These poachers are disguised, and being well armed, are dangerous men to attack. Officer McBride, in attempting to capture some of them was violently assaulted and received a severe wound on the head. With the hatchery in working order, it will not be so difficult to protect this stream.

OTHER FISHERIES.

Hake shows a decrease of 646 cwt. This fishery is declining every year, not through any scarcity of fish, but because fishermen do not prosecute it with the same vigour as formerly.

The catch of haddock also exhibits a slight falling off. Fishing for haddock is not prosecuted as a separate industry; the quantity appearing in the returns, having been taken accidentally in connection with the cod fishery. The same may be said of halibut, which shows an increase of 1,692 pounds and the catch of which fluctuates from year to year. Smelts have decreased 20,770 pounds. This falling off is due to the difficulty met in getting the product to market in the winter season. Eels show a considerable increase. This fishery was carried on with considerable energy during the fall months, and the results have been satisfactory.

The catch of alewives, shad and bass has been only nominal; the quantity taken being of little importance as an addition to our other fishery resources.

FISH PRODUCTS.

Owing to the small catch of cod and other ground fish, oil shows a decrease of 2,491 gallons. Unmanufactured fish manure on the contrary exhibits a considerable increase, which may be accounted for by the increased catch of lobsters, the bodies of which make a valuable fertilizer.

GENERALLY.

The year's operations may be considered satisfactory. The principal fisheries of the province have during the past season been actively prosecuted, and with one or two exceptions produced good results. The catch of some of the most valuable of our commercial fishes has exceeded that of many years past, and the prices realized came fully up to the expectations of those interested. These favourable conditions gave a healthy stimulus to the industry, and both dealers and fishermen are looking eagerly forward to the coming season, hoping that it may be even more successful.

In conclusion I desire to state that the wardens and other officers under my control, have evinced an earnest desire to assist in enforcing the Fishery Regulations. These Regulations are wisely framed for the purpose of protecting our sea coast and inland fisheries, and thus preserving for the people of Canada one of the most important resources of the country.

I have the honour to be, Sir,

Your obedient servant,

EDWARD HACKETT,

Inspector of Fisheries, Prince Edward Island.

PRINCE EDWARD ISLAND.—*Con.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in the Province of **Prince Edward Island**, for the Year 1890.

| DISTRICTS. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | | |
|---|--|----------|--------|--------|-----|--------|-------------------|----------|---------|-----|----------------|---|--------------------|--------------------|-------------------|-----------------------------|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Traps. | | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Herrings, smoked, in boxes. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | Value. | | | | | |
| | | | | | | | | | | | | | | | | |
| PRINCE CO. | | | | | | | | | | | | | | | | |
| Nail Pond..... | | | \$ | | 53 | 1590 | 174 | 1925 | 960 | 1 | 300 | | 440 | | 2419 | |
| Skinner Pond..... | | | | | 30 | 900 | 91 | 6100 | 3050 | 4 | 1200 | | 566 | 706 | 2125 | |
| Minisigash..... | 3 | 84 | 900 | 36 | 60 | 2400 | 230 | 1800 | 900 | 10 | 3000 | | 1200 | 31200 | 2000 | |
| Campbellton..... | 5 | 156 | 2800 | 25 | 17 | 425 | 51 | 1235 | 476 | 6 | 1800 | | 280 | 1200 | 1010 | |
| West Cape..... | 1 | 17 | 200 | 2 | 30 | 1200 | 90 | 1063 | 535 | | | | 175 | 7200 | 1000 | |
| Brae..... | | | | | 10 | 400 | 20 | 500 | 250 | | | | 26 | | 256 | |
| Egmont Bay..... | 1 | 19 | 380 | 5 | 52 | 1438 | 104 | 2000 | 1000 | 2 | 800 | | 300 | | 2500 | |
| Summerside and Richmond Bay..... | | | | | | | | | | | | | | | 100 | |
| Carlton..... | | | | | 5 | 150 | 7 | 300 | 100 | | | | | | 400 | |
| Cape Traverse..... | 1 | 24 | 700 | 4 | 3 | 140 | 6 | 240 | 120 | | | | 15 | | 100 | |
| Malpeque..... | 1 | 30 | 600 | 4 | 20 | 900 | 60 | | | | | | 300 | | 300 | |
| The Narrows..... | | | | | 8 | 480 | 24 | 500 | 250 | 1 | 300 | | 50 | 3840 | 1200 | |
| Cascumpec..... | 7 | 286 | 5500 | 67 | 60 | 3000 | 240 | 1780 | 890 | 5 | 1500 | | 525 | | 4400 | |
| Tignish..... | 4 | 152 | 3000 | 45 | 70 | 3500 | 280 | 1800 | 900 | 2 | 700 | 1 | 800 | 1500 | 35000 | 2200 |
| Grand River..... | | | | | 1 | 60 | 4 | 220 | 100 | | | | 30 | | 146 | |
| Rivers viz. :—Dunk, Lot 10, Trout and others..... | 1 | 18 | 300 | 4 | 3 | 60 | 6 | 60 | 30 | | | | | | 20 | |
| Totals..... | 24 | 786 | 14380 | 192 | 422 | 16643 | 1387 | 19583 | 9561 | 31 | 9600 | 1 | 5387 | 79146 | 20176 | |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—Continued.

| DISTRICTS. | KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | | VALUE. |
|---|--------------------|-----------|-------------------------------------|------------|-------------------|---------------|---------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|--------------------------------|------------------------------------|------------|
| | Alewives, barrels. | Cod, cwt. | Cod Tongues and Sounds, barrels. | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | Fish used as Bait, barrels. | Fish used as Man- ure, barrels. | |
| PRINCE CO. | | | | | | | | | | | | | | | | \$ cts. |
| Nail Pond..... | 25 | 196 | | 225 | 500 | | 100 | 750 | | 15 | | 35520 | 396 | 30 | 350 | 23,198 30 |
| Skinner Pond..... | | 200 | | 100 | 100 | | | 800 | | | | 144000 | 120 | 100 | 500 | 36,132 72 |
| Mininigash..... | | 300 | | 150 | 375 | 25 | | 1200 | 1000 | 20 | | 87600 | 375 | 700 | | 43,923 50 |
| Campbellton..... | | 130 | | 42 | 25 | | | 500 | 300 | 3 | | 50880 | 130 | | 650 | 15,365 10 |
| West Cape..... | | 80 | | 100 | 300 | | | 500 | | 2 | | 124224 | 50 | | 400 | 23,555 88 |
| Brae..... | 14 | | | | | | | 2400 | 6000 | 3 | 81 | 20400 | | | 50 | 4,823 00 |
| Egmont Bay..... | | 20 | | | | | | | 10000 | | | 223440 | | | | 42,352 80 |
| Summerside and Richmond Bay..... | | | | | | | | | 40000 | | 24120 | 4800 | | | | 75,736 00 |
| Carlton..... | | | | | | | | | | | | 29407 | | | | 5,128 84 |
| Cape Traverse..... | 10 | 20 | | 5 | | | | 500 | 5000 | 6 | | 69698 | | 360 | 1800 | 10,983 76 |
| Malpeque..... | | 200 | | 150 | | | | 150 | 10000 | | 380 | 34272 | 200 | 155 | 300 | 13,430 14 |
| The Narrows..... | | 900 | | 200 | | | | 10000 | 10000 | 15 | 3000 | 32080 | 500 | | | 24,210 40 |
| Cascumpec..... | | 540 | 6 | 100 | 200 | | | 300 | 60000 | 350 | | 29952 | 600 | | 600 | 39,459 24 |
| Tignish..... | | 500 | | 300 | 3000 | 100 | 1200 | 500 | 7000 | 5 | | 105796 | 500 | 1000 | 100 | 55,985 52 |
| Grand River..... | | 20 | | | | | | | 6900 | 39 | 1400 | | | | | 6,118 00 |
| Rivers, viz.:—Dunk, Lot 10, Trout and others..... | 10 | | | | | | | 3700 | 88000 | 155 | 1100 | | | | | 10,025 00 |
| Totals..... | 59 | 3106 | 6 | 1372 | 4500 | 125 | 1300 | 11300 | 250200 | 613 | 30081 | 992069 | 2871 | 2345 | 4750 | 430,728 26 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—Continued.

| DISTRICTS. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | |
|---|--|----------|--------|--------|-----|--------|-------------------|----------|---------|-----|--------------------|--------------------|-------------------|--------------------|--------|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Alewives, barrels. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | No. | | | | | Value. |
| | | | | | | | | | | | | | | | |
| QUEEN'S CO. | | | \$ | | | \$ | | | \$ | | | | | | |
| Clifton | 1 | 17 | 500 | 5 | 22 | 1100 | 70 | 25-40 | 1270 | 3 | 960 | 405 | 7200 | 520 | 24 |
| New London | 3 | 185 | 4200 | 13 | 6 | 200 | 21 | 86 | 43 | | | 127 | | 150 | |
| Cavendish | | | | | 8 | 400 | 24 | 250 | 125 | | | 144 | | 120 | |
| New Glasgow | 3 | 45 | 1200 | 20 | 50 | 5000 | 200 | 5000 | 2500 | 11 | 4000 | 2143 | | 2500 | |
| Rustico | 5 | 150 | 4500 | 30 | 75 | 3750 | 190 | 12000 | 6000 | 5 | 1500 | 1500 | 48000 | 1000 | |
| Grand Tracadie | 10 | 250 | 5000 | 26 | 85 | 1500 | 148 | 2000 | 1000 | 1 | 400 | 40 | 3000 | 130 | |
| Point Prim | | | | | | | | | | | | | | | |
| Charlottetown | | | | | 50 | 1100 | 80 | 1220 | 610 | | | | | 580 | 6 |
| Lot 65 and St. Peter's Island | | | | | 16 | 192 | 16 | | | | | 10 | | | |
| Argyle Shore | 2 | 60 | 2000 | 10 | 5 | 300 | 10 | 200 | 100 | 1 | 300 | 80 | 400 | 300 | |
| Crapaud | 1 | 64 | 1800 | 5 | 3 | 300 | 14 | 90 | 45 | | | 25 | | 100 | |
| Wheatly River | | | | | 1 | 20 | 2 | | | | | 4 | | | |
| Seal River | 3 | 45 | 500 | 12 | 10 | 100 | 20 | | | | | | | | |
| Vernon River and Orwell | | | | | 18 | 200 | 36 | | | | | | | | |
| Rivers, viz.: East, West, North, Johnston and others. | | | | | | | | | | | | | | | |
| Totals | 28 | 816 | 19700 | 121 | 349 | 14162 | 831 | 23386 | 11693 | 21 | 7160 | 4478 | 58600 | 5400 | 90 |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—P. E. Island—Continued.

| DISTRICTS. | KINDS OF FISH—Continued. | | | | | | | | | | | FISH PRODUCTS. | | VALUE. | |
|---|--------------------------|-----------------------------------|------------|-------------------|---------------|----------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|-----------------------------|--------|-------------------------------|
| | Cod, cwt. | Cod, Tongues and Sounds, barrels. | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Shad, barrels. | Trout, lbs. | Smelts, lbs. | Bele, barrels. | Oysters, barrels. | LOBSTERS, cans. | Fish Oil, gallons. | Fish used as bait, barrels. | | Fish used as manure, barrels. |
| QUEEN'S CO.—Concluded. | | | | | | | | | | | | | | | |
| Clifton | 357 | | 10 | 5 | | | 500 | 2000 | 200 | 120 | 34224 | 200 | | 100 | 2,530 00 |
| New London | 85 | | 20 | | | | 950 | 600 | 22 | | | | | | 14,726 38 |
| Cavendish | 100 | | 100 | | | | 1000 | 500 | 15 | | | | | | 3,384 00 |
| New Glasgow | 2000 | | | | | | 1500 | 1530 | 120 | | 31200 | 500 | 300 | | 3,720 00 |
| Rustico | 1500 | | | | | | | 20000 | 300 | 14 | 49104 | 1000 | 400 | | 55,680 80 |
| Grand Tracadie | 60 | 1 | 60 | 55 | 28 | | 250 | 200 | 2 | 5 | 146880 | 60 | 90 | 1800 | 49,304 48 |
| Point Prim | | | | | | | | | | 840 | | | | | 20,866 10 |
| Charlottetown | | | | | | | 650 | 24000 | 6 | 780 | 238533 | | 1400 | | 2,520 00 |
| Lot 55 and St. Peter's Island | | | | | | | 1500 | 10000 | 8 | 1340 | 24000 | | | | 33,983 96 |
| Argyle Shore | 15 | | | | | | | | | | 46224 | | 100 | | 8,642 00 |
| Crapaud | 45 | | | | 15 | | 250 | 800 | 43 | | | | | | 9,034 88 |
| Wheatly River | | | | | | | 1800 | 4000 | 2 | 460 | | | | | 1,518 00 |
| Seal River | | | | | | | 300 | 200 | | 460 | | | | | 1,880 00 |
| Vernon River and Orwell | | | | | | 5 | 1800 | 10000 | 20 | 1100 | | | | | 1,422 00 |
| Rivers, viz.: East West, North, Johnston and others | | | | | | | | | | | | | | | 4,330 00 |
| Totals | 4162 | 1 | 190 | 60 | 43 | 5 | 10500 | 73830 | 738 | 5119 | 570165 | 1760 | 590 | 3600 | 213 632 60 |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c., in the Province of
Prince Edward Island—Continued.

| DISTRICTS. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | FISHING MATERIAL. | | | | KINDS OF FISH. | | | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | | | | | | |
|---|--|----------|--------|-------|-------------------|--------|--------|-----------------------------|--------------------|--------------------|-------------------|--------------------|-----------|------------|-------------------|---------------|---------------|------------|-------------|-------------|----------------|-------------------|-----------------|--------------------|--------|-----------------------------|-------------------------------|-----------|--------|--------|------------|
| | Vessels. | | Boats. | | Nets. | | Seine. | Salmon, fresh, in ice, lbs. | Mackerel, barrels. | Mackerel, in cans. | Herring, barrels. | Alewives, barrels. | Cod, cwt. | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Bass, lbs. | Trout, lbs. | Smelt, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, gallons. | | Fish used as Bait, barrels. | Fish used as Manure, barrels. | | | | |
| | No. | Tonnage. | Value. | Men. | Fathoms. | Value. | | | | | | | | | | | | | | | | | | | | | | No. | Value. | | |
| King's Co. | | \$ | | \$ | | \$ | | \$ | | | | | | | | | | | | | | | | | | | \$ | cts. | | | |
| Souris..... | 2 175 | 3500 | 33 | 80 | 2000 | 180 | 5000 | 2500 | 52000 | 300 | 800 | 1450 | 2000 | 1500 | 1000 | 1000 | 52800 | 1000 | 600 | 600 | 28 | 386 | 00 | | | | | 28 | 386 00 | | |
| Fortune Bay .. | 13 | 350 | 42 | 110 | 55 | 2 | 640 | 1 | 500 | 300 | 300 | 40 | 50 | 10 | 1800 | 1800 | 6384 | 50 | 200 | 50 | 3 | 791 | 08 | | | | | 3 | 791 08 | | |
| Laurel .. | 120 | 2500 | 240 | 5000 | 2500 | 1 | 500 | 200 | 3000 | 3000 | 75 | 100 | 100 | 100 | 20 | 20 | 133386 | 100 | 1500 | 100 | 34 | 552 | 82 | | | | | 34 | 552 82 | | |
| George Town .. | 3 | 90 | 1800 | 20 | 75 | 2000 | 230 | 6000 | 3000 | 1 | 350 | 5000 | 60 | 100 | 50 | 100 | 76800 | 200 | 100 | 100 | 38 | 016 | 00 | | | | | 38 | 016 00 | | |
| Murray Harb'r .. | 18 | 450 | 4500 | 108 | 30 | 750 | 75 | 4000 | 2000 | 150 | 4000 | 2000 | 1500 | 2500 | 400 | 25 | 472320 | 1900 | 1300 | 100 | 94 | 768 | 40 | | | | | 94 | 768 40 | | |
| North Lake .. | 225 | 6500 | 675 | 10150 | 5080 | 1 | 350 | 2700 | 7000 | 120 | 3200 | 600 | 900 | 50 | 3600 | 8000 | 60720 | 1900 | 4000 | 100 | 196 | 40 | | | | | 100 | 196 40 | | | |
| Naufage .. | 70 | 1500 | 185 | 5000 | 2500 | 3 | 900 | 400 | 4000 | 300 | 300 | 400 | 20 | 2500 | 2500 | 28000 | 300 | 800 | 800 | 14 | 320 | 00 | | | | | 14 | 320 00 | | | |
| St. Peter's .. | 125 | 5880 | 375 | 31240 | 15620 | 1 | 4700 | 2040 | 1000 | 120 | 2200 | 200 | 150 | 100 | 950 | 12000 | 1200 | 800 | 800 | 49 | 275 | 00 | | | | | 49 | 275 00 | | | |
| Savage Harb'r .. | 23 | 1350 | 69 | 4940 | 2470 | 1 | 502 | 4800 | 226 | 122 | 179 | 10 | 12 | 522 | 200 | 300 | 1600 | 3 | 9600 | 80 | 50 | 27 | 858 | 20 | | | 50 | 27 858 20 | | | |
| Montague .. | 3 | 160 | 3200 | 20 | 5 | 200 | 15 | 500 | 300 | 20 | 10 | 500 | 500 | 500 | 500 | 6 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 2 | 960 00 | | | |
| Rivers, viz :— Morell, Cardigan, Brudenell and others .. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 625 00 | |
| Totals | 26 | 875 | 13000 | 181 | 766 | 23220 | 2046 | 71950 | 36975 | 17 | 5540 | 4700 | 6072 | 8800 | 21926 | 422 | 9164 | 4910 | 5300 | 602 | 4122 | 200 | 41300 | 1300 | 1661 | 3 | 854560 | 6730 | 8450 | 100 | 396 748 40 |

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantity of Fish, and the Total Number of Men employed, &c., in the Province of Prince Edward Island, for the Year 1890.

| VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | | | | | FISHING MATERIAL. | | | | | KINDS OF FISH. | | | | |
|--|----------|----------|--------|--------|------|--------|----------|--------|----------|-------------------|--------|--------|-----------------------------|-----------------|--------------------|----------------|-----------------|-----------|--|
| COUNTIES. | Vessels. | | | Boats. | | | Nets. | | Seinees. | | Traps. | | Salmon, fresh, in ice, lbs. | Mackerel, brls. | Mackerel, in cans. | Herring, brls. | Alewives, brls. | Cod, cwt. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. | | | | | | | |
| Prince..... | 24 | 786 | 14380 | 192 | 422 | 16643 | 1387 | 19583 | 31 | 9600 | 1 | 800 | | 5387 | 79146 | 20176 | 59 | 3106 | |
| Queen's..... | 28 | 816 | 19700 | 121 | 349 | 14162 | 831 | 22386 | 21 | 7160 | | | | 4478 | 58600 | 5400 | 30 | 4162 | |
| King's..... | 26 | 875 | 13000 | 181 | 766 | 23220 | 2086 | 71950 | 17 | 5540 | | | 4700 | 6872 | 88400 | 21926 | 422 | 9164 | |
| Totals..... | 78 | 2477 | 47080 | 494 | 1537 | 54025 | 4304 | 114919 | 69 | 22300 | 1 | 800 | 4700 | 10837 | 146546 | 47502 | 511 | 16432 | |

| COUNTIES. | KINDS OF FISH—Concluded. | | | | | | | | | | Fish Products. | | | VALUE. | | |
|--------------|--------------------------|------------|-------------------|---------------|---------------|----------------|------------|-------------|--------------|----------------|-------------------|-----------------|--------------------|--------|-----------------------------|----------------------------|
| | Cod Tongues and Sounds. | Hake, cwt. | Hake Sounds, lbs. | Haddock, cwt. | Halibut, lbs. | Shad, barrels. | Basg, lbs. | Trout, lbs. | Smelts, lbs. | Eels, barrels. | Oysters, barrels. | Lobsters, cans. | Fish Oil, Gallons. | | Fish used as bait, barrels. | Fish used as manure, brls. |
| Prince..... | 6 | 1372 | 4500 | 125 | 1300 | | | 11300 | 250200 | 613 | 30081 | 992069 | 2871 | 2345 | 4750 | 430,728 20 |
| Queen's..... | 1 | 190 | 60 | 43 | 10500 | 5 | | 10500 | 73830 | 738 | 5119 | 570165 | 1750 | 5690 | 3600 | 213,632 60 |
| King's..... | | 4910 | 5300 | 602 | 4122 | | 200 | 41300 | 1300 | 1661 | 3 | 854560 | 6730 | 8450 | 100 | 386,748 40 |
| Totals..... | 7 | 6472 | 9860 | 770 | 5422 | 5 | 200 | 63100 | 325330 | 3012 | 35203 | 2416794 | 11361 | 11385 | 8450 | 1,041,109 20 |

RECAPITULATION.

YIELD and Value of the different Fisheries in the Province of Prince Edward Island during the Year 1890.

| Kinds of Fish. | Quantity. | Price. | Value. | Increase. | Decrease. |
|--|----------------|---------|--------------|-----------|-----------|
| | | | | Quantity. | Quantity. |
| | | \$ cts. | \$ cts. | | |
| Salmon, fresh..... | Lbs. 4,700 | 0 20 | 940 00 | 3,300 | |
| Mackerel..... | Brls. 16,837 | 15 00 | 252,555 00 | 4,387 | |
| do canned..... | Lbs. 146,546 | 0 12 | 17,585 52 | 47,276 | |
| Herring..... | Brls. 47,502 | 4 00 | 190,008 00 | 13,562 | |
| Alewives..... | do 511 | 4 50 | 2,299 50 | 54 | |
| Cod..... | Cwt. 16,432 | 4 00 | 65,728 00 | | 4,764 |
| Cod Tongues and Sounds..... | Brls. 7 | 10 00 | 70 00 | | 18 |
| Hake..... | Cwt. 6,472 | 4 00 | 25,888 00 | | 646 |
| Hake Sounds..... | Lbs. 9,860 | 0 50 | 4,930 00 | 1,213 | |
| Haddock..... | Cwt. 770 | 4 00 | 3,080 00 | | 130 |
| Halibut..... | Lbs. 5,422 | 0 10 | 542 20 | 1,692 | |
| Shad..... | Brls. 5 | 10 00 | 50 00 | 4 | |
| Bass..... | Lbs. 200 | 0 06 | 12 00 | | 1,400 |
| Trout..... | do 63,100 | 0 10 | 6,310 00 | 6,280 | |
| Smelts..... | do 325,330 | 0 06 | 19,519 80 | | 20,770 |
| Eels..... | Brls. 3,012 | 10 00 | 30,120 00 | 1,198 | |
| Oysters..... | do 35,203 | 3 00 | 105,609 00 | | 6,054 |
| Lobsters, canned..... | Lbs. 2,416,794 | 0 12 | 290,015 28 | 355,847 | |
| Fish oil..... | Galls. 11,361 | 0 40 | 4,544 40 | | 2,491 |
| Fish used as bait..... | Brls. 11,385 | 1 50 | 17,077 50 | 11,385 | |
| Unmanufactured fish manure..... | do 8,450 | 0 50 | 4,225 00 | | 4,650 |
| Total value of P.E.I. Fisheries in 1890..... | | | 1,041,109 20 | | |
| do do 1889..... | | | 886,430 84 | | |
| Increase in 1890..... | | | 154,678 36 | | |

ESTIMATE

Of Capital employed in the Fisheries of the Province of Prince Edward Island in the Year 1890.

| | Value. | Total. |
|---|-----------|------------|
| | \$ cts. | \$ cts. |
| 78 vessels, 2,477 tons..... | 47,080 00 | |
| 1,537 boats..... | 54,025 00 | |
| 69 seines..... | 22,300 00 | |
| 114,919 fathoms nets..... | 57,229 00 | |
| 81,950 do trawls..... | 3,851 00 | |
| 50 smelt nets..... | 1,000 00 | |
| 95,725 lobster traps..... | 57,435 00 | |
| 1 trap..... | 800 00 | |
| Fish stages and appliances..... | 15,000 00 | |
| 98 lobster factories, in operation..... | 78,400 00 | |
| 600 oyster boats..... | 9,000 00 | |
| 1,100 rakes and tongs..... | 2,200 00 | |
| | | 348,320 00 |

APPENDIX D.

QUEBEC.

REPORT OF THE FISHERY OFFICER IN CHARGE OF THE GOVERNMENT VESSEL "LA CANADIENNE," ENGAGED IN THE PROTECTION OF THE GULF OF ST. LAWRENCE FISHERIES, FOR THE YEAR 1890.

GASPÉ, P. Q., 31st December, 1890.

The Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the report on the fisheries of the Gulf Division for the year 1890, together with synopses of the reports of the local fishery overseers, and tabulated statements of the product and values.

The yield for the year shows the considerable decrease in value of \$267,667.09 as compared with the returns for 1889. This decrease is almost entirely due to the diminished catch of salmon, herring and cod in the Counties of Gaspé and Bonaventure, which show a falling off in salmon of 66,851 pounds, valued at \$13,370: herring, 14,721 brls., valued at \$68,884, and cod, 36,649 cwt., of the value of \$146,596; the total decrease being \$228,850.

On the north shore and Labrador, the cod-fishery shows an increase of 6,556 cwt., and salmon of 43,713 pounds over the yield of 1889. This represents a good fishery, the year 1889 being a fair average one.

This decrease is undoubtedly due to the severity of the season, which has been almost unprecedented in its roughness. In May and June, there was a prevalence of almost continuous east winds and rain, varied with occasional gales. July was comparatively fine; but after the 20th August the weather again became rough, and hardly a week passed without a severe gale. During June, much damage was done to lobster traps and salmon nets, and during the fall gales, many boats were lost.

SALMON.

The total yield of salmon in this division amounts to 591,079 lbs. as compared with 584,217 lbs. for the previous season, or an increase of 6,862 lbs. As before stated, there was a heavy decrease on the south shore, but this has been more than made up by the increased catch on the north shore. Salmon net fishing began on the south shore about the 25th May. The weather during June, when the bulk of the fishery is usually made, was unfavourable, being cold and wet with constant easterly wind; many of the nets in exposed situations being carried away. There is no doubt that the fish avoided the shores and kept right up the rivers. All the river guardians, from whom we have reports, agree in saying that fly-fishing was good and that the pools are more than usually full of breeding fish. On the north shore, the salmon net fishery was unusually good, many nets west of the Moisie river and in the neighbourhood of Trinity Bay having done better than ever before. It is worthy of remark that the run of salmon on the north shore is steadier and has not fallen off as it has on the south shore. I am inclined to think that the disappearance of capelin on the south coast, while it is constant on the north shore, has a good deal to do with this state of affairs. A steamer from France the "Frigide," the old "Diana" of the Hudson Bay Company, came out to Natashquan early in June and purchased all the salmon, not already contracted for, to be had between Natashquan and Agwanus.

When the fishery began to slacken, she left for Chateau Bay in the Straits, where she hoped to complete her load before returning to Havre. She was fitted to freeze the fish on board, and if the venture turns out well, will return to the coast in 1891.

COD.

Cod-fishing began about the end of May; during the early summer, up to the 20th July, the South shore fishery promised well, after that date, bait became scarce, and as the season advanced, the weather got rougher and rougher, and the damage to boats and gear became so great, that the fishery was really abandoned before its close. On the south coast, the fishery is short, compared with 1889, which was about an average year, by nearly 37,000 cwts. After the middle of July, bait was always scarce, and squid, which constitutes the bait between the end of July and the middle of October, failed altogether. Fishermen are loud in their complaints against the order forbidding seining of smelt for bait. It was unfortunate that this season, the first in which this regulation was enforced, should have been one in which over a great part of the coast there has really no other bait to be had.

On the north coast and Labrador, the fishing was good; cod were distributed abundantly all along the coast from Godbout to Blanes Sablons, but they never took the hook freely for any length of time. The fall fishery between Mingan and Point des Monts was a failure owing to the continued rough weather. Below Mingan, there is no fall fishing; the season ending with the disappearance of capelin, about the close of July. The increased summer catch, however, fully made up for the failure in the fall. The yield on the north coast for this season is 62,972 cwts., against 56,417 cwts. in 1889. The Esquimaux Point fleet, as usual, missed the cod. They held on at Natashquan until the 8th July, when they left for below. By the 21st, many of them had passed back to the Point to fit out for the herring fishery, which they only make in September and October. Those who remained below gave up the cod-fishery, and hung about the lower harbours, waiting for the herring which never came. Had these people stuck to the cod-fishery, as they should have done, there is no reason why they could not have made as good voyages as did the Nova Scotia vessels, which, between the 28th July and the 3rd August, filled up with cod at Dog Islands and St. Augustin, where for a week the fish were in enormous quantities and took the bait ravenously with the float line, which is the only rig that these Esquimaux Point people ever use. While these men in vessels from Esquimaux Point were amusing themselves sailing backwards and forwards along the coast, a few of those who could not get away began fishing off the Point, and though the boats they had and the lines they were rigged with, were almost past service, yet during the season they took some 600 cwts. of cod. The sooner these fishermen from the Point learn to provide themselves with modern appliances and prosecute the fishery with intelligence and energy, the sooner will there be an end to their complaints. It is impossible that there can be anything else but misery at Esquimaux Point, as long as their various fisheries are conducted in the present badly found and careless manner. They would, in any case, do far better to give up cod-fishing in vessels, and fit out with boats to carry on this fishery from the shore, abreast of their own homes, as is done by all the other communities on the North coast. The vessels, if properly fitted and found, could still be used for the seal and herring fisheries.

HERRING.

Spring herring were abundant at Magdalen Islands, and in the Baie des Chaleurs, during the first spring tides of May. These herring are taken in enormous quantities in the Bay for manure, and at Magdalen Islands, both for manure, and bait. Many foreign and domestic vessels visit the Islands, for the purpose of getting herring for the bank cod-fishery and for baiting lobster traps.

During the summer, herring were always scarce, and in the fall in many places none at all were found. This scarcity may have been partly due to the heavy

weather which kept herring off shore; that this was so, is evinced by the fact that boats often found herring on the banks, when they could get none ashore. But, this alone does not account for the steady and continued failure of the fall (fat) herring.

I think there can be no doubt that the practice of taking unspawned herring in such enormous quantities for manure must be wrong. There is a growing feeling that the time has come when the taking of such a valuable food fish as herring for manure should be stopped. I believe that it should not even be permitted to take herring in large quantities for bait for export, until the spawning season is over. I have many times called the attention of your Department to this matter, and I would again urge it upon your favourable consideration.

The fleet from Esquimaux Point again missed the herring. These people who had abandoned the cod-fishery during the middle of July to fit out or prepare for herring fishing which usually takes place in September and October, about the Straits of Belle Isle and the west coast of Newfoundland, with their usual bad luck and in spite of their early preparation, did nothing; the fleet of 19 vessels taking only 900 brls.

They were again harrassed by the Newfoundland Custom House officers, and compelled to pay duty on salt and barrels which they had on board for the purpose of the fishery, and not for trade. The following vessels paid these duties as follows:—

| | | |
|----------|--|----------------------|
| Schooner | "Java," D. Cormier, Master..... | \$16 00 |
| do | "Stella Maris," L. Cummings, Master..... | 28 00 |
| do | "Progress," V. Boudreault do | 32 00 |
| do | "H. B.," H. Boudreault do | 32 00 |
| do | "Gleaner," S. Landry do | 24 00 |
| do | "Labrador," P. Doyle do | 22 50 |
| do | "Elizabeth," Cormier do | 16 60 |
| do | "Ste. Marie," Shearer do | No return of amount. |
| do | "Sea Star," J. Muldoon do | do |

It certainly seems unfair that our fishing vessels should be compelled to pay duty on fishing outfit which is solely for their own use, is never landed, and is not intended for trade.

This imposition is made worse by the fact that the Newfoundland authorities are not even able to protect these people, after making them pay such duties, as they have frequently been driven off by French cruisers. This matter should receive the attention of our custom authorities.

LOBSTERS.

The lobster fishery shows a slight increase; the figures being for this year 616,218 lbs. as against 593,950 lbs. for 1889. This increase is more than accounted for by the opening of two new canneries on the Island of Anticosti. These canneries were opened by people from Nova Scotia, who had left in the early spring with the intention of establishing themselves on the west coast of Newfoundland, but owing to the troubles there were driven off. Instead of returning to Nova Scotia, they decided to give Anticosti a trial. After making arrangements with the owners of the island for sites, they put up two canneries, the material for which they had on board their vessels. They were late in getting to work, and were much hampered by the drift ice in June. In spite of these drawbacks, they made a good fishery, putting up 60,000 lbs.

Lobsters are abundant all around the Island of Anticosti, and as the ground is new, the run of fish is large. The trouble will be that owing to the rocky nature of the bottom, and the complete want of shelter, the loss of traps will be something enormous.

In most localities, the season was not a favourable one; the loss of traps in some cases having run up to 80 per cent.

There is no doubt that in the Baie des Chaleurs where there has been many factories in operation for some years, the run of lobsters is improving. In fact, on the main

land shores of Gaspé and Bonaventure, no falling off in the size of lobsters was noticed during the past three seasons. The coast is not overfished, and the shortened season is beginning to tell.

At Magdalen Islands, this stoppage in the decreasing size of the lobster is not so apparent, though some of the more intelligent fishermen claim that even here the new regulations are beginning to tell. If these regulations are to remain in force, it will be necessary to have a number of local guardians to assist the fishery officer in watching the canneries.

MACKEREL.

Mackerel were fairly abundant around the Magdalen Islands throughout the season, and 5,018 brls. were caught by the local fishermen with hook and line. A fleet of about twenty United States fishermen fished there from early in August until late in October. No very large catches were made, and they took nearly all their fish with hook and line. In some instances, the fish were tolled to the surface; and the seine shot around them, but, as a rule, the seine was not used, several of the vessels were fitted solely as hook and liners, and others left their seine boats ashore. The mackerel did not school at the surface; the run was large and fat.

A few schools were noticed between Point des Monts and St. Ann's, in the River St. Lawrence; but in Gaspé Bay, Port Daniel and Seven Islands Bays, no mackerel whatever were seen. The price of mackerel continued high.

SEALS.

The seal fishery was a failure; the Magdalen Island fleet taking only 11,628 seals among 21 vessels—not half a fishery—while the vessels from Esquimaux Point took only 2,155. Seals were abundant; in fact owing to the poor fisheries of recent years; they are accumulating, but the ice was so packed that these small, poorly found sailing vessels were not able to reach them.

BAIT.

Bait in the shape of spring herring was fairly abundant in May and June, but the summer and fall herring was everywhere either scarce or altogether absent.

Capelin were unusually abundant on the north coast and Labrador; but this bait is now a thing of the past along the south shore, it being only about Paspebiac that any is taken.

Squid, the bait usually relied on from the end of July until well into October, missed altogether. It is impossible to account for this failure, but it happens this way now and then.

Fortunately, over most of the coast, clams are found in abundance in the estuaries and sandy Barachois. They are used fresh, and furnish reliable bait. Some of our large fishing firms have, at various times, imported salted clams from Halifax, but they were found so little useful as bait that the fishermen refused to go out with them. The scarcity of bait was much felt on some of the larger fishing rooms, such as at Percé, Bonaventure Island, Point St. Peter, Cape Cove, and Grand River, where there are no clam banks.

Appended hereto are synopses of the reports of the various local officers in the division.

I have the honour to be, Sir,

Your obedient servant.,

WM. WAKEHAM,

Fishery Officer in charge of the Gulf and lower St. Lawrence Division.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS.

RISTIGOUCHE SUBDIVISION.

Overseer J. A. Verge reports the catch of salmon as only 33,465 lbs., as against 52,880 lbs. in 1889. This is, of course, only for the Quebec side of the estuary. This shortage is supposed to be due to the prevalence of easterly gales during the main

run of the fish. Many nets were torn, and all more or less cast adrift. The fish also kept to the channels and avoided the shores. After the rough weather had passed, it was noticed that salmon were very abundant above the tide, in the lower portions of the river; and in October, the spawning beds on the main river and Kedgewick never contained more fish. Due regard was paid by licensees to the fishery laws and regulations, and the Sunday close time was strictly complied with.

The smelt fishery was a failure, owing to the shifting of the ice; only 11,000 lbs. being taken.

CARLETON SUB-DIVISION.

Overseer P. Cyr reports salmon fishing a failure. Many nets did not half pay expenses; the take being only 27,334 lbs., as compared with 37,805 lbs. in 1889. Fishermen attribute this failure to the prevalence of easterly wind, causing the fish to keep in deep water while passing in to the estuaries of the Ristigouche and Grand Cascapedia.

Cod was abundant right up the Bay to Maguasha, but bait was scarce. Herring were plentiful, but the catch was small, owing to continued rough weather which prevailed throughout the whole season, and caused much damage to nets and gear.

BONAVENTURE SUB-DIVISION.

Overseer J. L. Smith reports that salmon fishing in his division shows a decrease of 3,382 lbs. as compared with last year. Spring herring were plentiful at Paspébiac, New Carlisle and Bonaventure, but scarce at other stations. Lobster fishing began on 10th May, with a good catch. Two factories were open, and in proportion to the number of traps fished, the catch was good; lobsters being larger than last year.

Capelin were scarce; only a few being taken at Paspébiac and New Carlisle.

The summer catch of cod was fair, but bait was scarce, and fishermen had to use clams. Fall fishing was about an average, but bait was always scarce. Mackerel and fall herring were a failure.

PORT DANIEL SUB-DIVISION.

Overseer J. Phelan reports that the salmon fishing season began on 27th May and closed 21st July, being 15 days shorter than last year. There is a shortage of 3,000 lbs., as compared with last year; this was confined to one stand, that of Jean Langlois. The failure of this stand was due to the work going on at Port Daniel wharf during the fishing. The catch otherwise was fully up to an average.

Cod-fishing began on the 5th June with good indications, but these did not continue; bait failed in July, and by the 1st of August it was evident that the summer fishery would be a failure. It was hoped that the fall fishery would make up the loss, but bait never came in; herring and squid missed entirely. From the end of August to the close of navigation, there was nothing but a succession of gales, such as have seldom been experienced on the coast. There was no scarcity of fish; the failure of the fishery was entirely due to want of bait and stormy weather.

In the last few years, summer herring have been falling off; this year there could not be had half enough for bait. Though Mr. Phelan does not think that the seining of spring herring for manure is the only cause of this failure; yet, he favours the prevention of seining for manure. Spring herring were plentiful, and were largely taken for manure. Many Nova Scotia vessels baited at Port Daniel in the spring, paying from 60 cents to 75 cents a barrel for spring herring. No mackerel were caught, nor were any seen on the coast.

Lobster fishing began on the 13th of May and closed 10th July. Lobsters appear to hold out well both in size and quantity; the catch during the first two or three weeks of the season being exceedingly good. Later on, fishing operations were interrupted by frequent storms, causing considerable wreckage of traps. The fishery was ten days later in opening than in 1889.

Fishermen of all classes sustained considerable loss, through wreckage, this season. At l'Anse au Gascon, several boats were broken, and some protection in the shape

of a breakwater is much needed there so that boats can remain afloat in safety. Fishermen complain bitterly against the smelt regulation, especially with such a season as this, when no other bait was to be had. Owing to the enforcement of these regulations, many codfishermen were prevented from earning their living.

GRAND-RIVER SUBDIVISION.

Overseer H. Jones reports the salmon catch about the same as last year; the yield this season being 16,000 lbs. as against 16,008 for 1889. Salmon nets in this sub-division are all on the sea coast and as a natural consequence are disturbed by rough weather more than the sheltered nets in the estuaries. The lobster fishery was late in beginning by fully ten days, and the loss of traps was so great that after the rough weather in the end of June most of the factories closed down.

Cod-fishing was a failure, owing to want of bait; herring being scarce all summer and squid still scarcer in the fall. The weather was constantly bad, and during the unusually heavy gales of the 28th August and the 5th October, many boats were broken at the moorings and lost. The falling off in this sub-division alone amounts to 15,000 cwts.

Smelt fishing was also a failure; only 2,080 lbs. being seined, against 20,000 lbs. last year. The smelt kept out and did not run into the estuaries until after the close of navigation.

GASPÉ SUBDIVISION.

Overseer G. Annett reports salmon fishing a failure—the take being 46,456 lbs. compared with 75,023 lbs. in 1889. This is held by net fishermen to be altogether due to the bad weather which prevailed during the end of May and June.

Lobster fishing gave about the same return as in 1889; there being a decrease this season of only 2,500 lbs. which would be more than accounted for by the unfavourable season. Most of the lobster factories closed down before the end of the season; during the first weeks of the fishing, the run of lobsters was good and the size fair.

Cod fishing was decidedly poor; not on account of any scarcity of fish, as when the boats went out with bait, good fares were made, but owing to scarcity of bait and rough weather. At Point St. Peter, on the 5th and 6th of October, several boats were destroyed during an unusually heavy gale. Smelt fishing was also a failure. There were taken this fall 74,665 lbs. as compared with 101,860 lbs. in 1889. These fish kept on shore during the early part of the season in October, owing to the rough weather and heavy floods in the rivers. It was only during the last week of the fishery, between the 10th and 17th of November, that anything was done. After the close of the fishing season, on the 18th November, when the Str. "Admiral" stopped running, smelt came in and were abundant in the bays and estuaries.

MAGDALEN RIVER SUB-DIVISION.

Overseer J. Lemieux reports salmon fishing as poor. Cod struck in on the 8th June; the fishery is below the average. Cod seemed to be plenty but bait was always scarce; for weeks at the time none being had. Squid missed entirely in this division. No mackerel were seen, and the white porpoises, which have so disturbed the cod-fishery of recent years, did not, this season, put in an appearance.

ST. ANNE DES MONTS SUB-DIVISION.

Overseer Jos. J. Létourneau reports the cod-fishery as being slightly better this year than last. Cod were late in arriving, and bait was scarce. The white porpoises did not fail to visit the coast as usual; and at each visit they drove away the cod and the bait for fully a week. The salmon net fishery amounts to nothing, as there are now only two small nets licensed, which caught about 3 brls. of salmon. The salmon were late in entering the river, but the spawning pools were unusually full this fall. No trout nets were set this season. Herring were scarce, and always poor in quality. A good many schools of mackerel were noticed well off shore in the River St. Lawrence, but they never came in-shore and none were taken.

MAGDALEN ISLANDS SUB-DIVISION.

Overseer A. Chevrier reports a poor spring seal fishery. Owing to the motion of the ice, the schooners could not reach to the seals. It is now several years since the Islands schooners have made a good seal fishery. In the meantime, seals are accumulating; immense herds were seen, but the vessels only killed 11,628. The take of lobsters was fair, 341,088 lbs. being canned, being 11,676 lbs. more than in 1889. The season began well, but during the end of June an easterly gale broke up many of the traps. In one case, a canner reported 80 per cent. of his traps destroyed. The fishery was pretty well over by the end of June, damaged traps not being replaced. The cod-fishery was poor. The fish did not seem to be plenty on the inshore grounds, and, as soon as the mackerel struck in, the bulk of the fishermen gave up the cod and took to mackerel fishery.

The mackerel fishery was fairly good, local boats taking 5,018 barrels, altogether with the jig. The Islands fishermen complain that their hook-and-line fishing was very much curtailed by the great quantity of gill nets set off the Islands, especially off Grand Entry and Pleasant Bay, by foreign fishing vessels. The prices paid for mackerel continued high.

Spring herring were abundant, and large quantities were taken by vessels from the United States, Nova Scotia and Newfoundland. Several French vessels come over from St. Pierre to buy herring for bait.

POINT DES MONTS SUB-DIVISION.

Overseer N. Comeau reports a considerable increase in the catch of salmon in his division, 61,465 lbs. being taken, as against 43,250 lbs. in 1889. The weather was very unfavourable, and the heavy easterly winds did much damage; several fishermen losing their nets entirely. The run of salmon was late, but steady and regular all through the season. Angling was also good; the Trinity River giving one-third more than the usual catch, while on the Godbout, three rods took the enormous number of 509 fish. Trout seemed scarce. Cod struck in early, a few being taken at Trinity Bay in May, fully a month earlier than usual. The fish remained on the banks all season, and as late as the 8th November they were still abundant. The catch was considerably more than last year. Herring and halibut were not as abundant as usual. Bait, herring and squid were scarce; in fact, no squid were seen this season. The principal bait used was clams. One or two schools of mackerel were seen off Godbout in July, and a few barrels were taken in herring nets. There was a large decrease in the number of seals killed at Point des Monts during the winter. At Manicouagan, the summer seal fishery was fair. The seal taken in summer at Manicouagan is the common harbour seal (*Phoca Vitulina*), while at Point des Monts, in winter, the seal killed is the Greenland seal (*Phoca Groenlandica*).

MOISIE SUB-DIVISION.

Overseer T. Migneault reports that salmon net fishing began on 28th May, and was at its best between the 5th and 23rd June. Some of the nets in the bay, west of Moisie River made enormous catches. The run of salmon was smaller than usual; 198 salmon were taken with the fly by six rods, but the gentlemen gave up fishing on the 3rd July, when the fishing was at its best. The river was full of fish. The cod-fishing was fair, especially in the fall; 3,855 cwts. being taken as against 3,051 cwts. in 1889. Bait was scarce towards the end of the season. Had it not been for this, the catch of cod would have been much more considerable. No mackerel were seen at Seven Islands. Fall herring were scarce, the take being short of last season's by 251 barrels.

MINGAN SUB-DIVISION.

Overseer G. L. Duguay reports salmon fishing good in his division. The summer cod-fishing was also good, but fall fishing was a failure, owing to continuous rough weather. There were taken 17,600 cwts. of cod, as compared with 18,550 cwts. during the previous year. In view of the fact that fall fishing was a failure, this represents a good summer fishing. The fishermen from Esquimaux Point failed at each of their three fisheries: 1st. At the seal fishing in the ice, twenty-two schooners taking only 2,000 seals, yielding about 6,000 gallons of oil. 2nd. At the

cod-fishery, the fleet which went below returned with only about 900 cwts. 3rd. At the herring fishery made in the Straits and on the west coast of Newfoundland, the same vessels took only 900 barrels. As a consequence, the people at the Point are poorly off, and some fifty families have had to leave. Twenty boats which carried on the fishery in deep water right abreast of the Point took 600 cwts.; this in spite of the fact that they were poorly rigged, and owing to the absence of other bait but clams.

NATASHQUAN SUB-DIVISION.

Overseer G. Gaudin, reports the seal fishery a failure, only 485 seals being taken by the six schooners of Natashquan, against 5,318 the year before. The first salmon was taken in the river on the 5th June; the river gave about the same quantity as last year. The outside stations did well, in spite of drift ice which remained until the 21st June. Three rods took 203 salmon in the Great Natashquan in three weeks. A few herring were caught in the spring, but during the summer and fall none were taken. Cod struck in abundantly with the capelin on the 12th June, but no great loads were made; fishermen complaining that the fish would not take the bait. The fish disappeared from the grounds on the 5th July, leaving with the capelin. After this date, the boats made several trips to the off shore banks at Kegashka; the trips often taking a week or more. Seven families left this season. Two removed to the upper part of the province, two returned to Magdalen Islands, from which they came a few years ago, and three crossed to Port Daniel, in Baie des Chaleurs.

WASHEECOOTAI SUB-DIVISION.

Overseer G. Mathurin reports that salmon fishing began only on 20th June, owing to the quantity of drift ice kept on shore by prevailing easterly winds. Many nets were carried away by the ice, and fishermen were too poor to replace them. A number of boats came down in July and August to fish for cod off Kegashka; they did fairly well. There are only two boats carrying on cod-fishing in this division.

ST. AUGUSTIN SUB-DIVISION.

Overseer J. Legouvie reports that the salmon fishery was late in beginning, owing to the field ice which remained on shore, so that nets could not be set in many places before the 24th June. Only 96 brls. were taken, compared with 116 in 1889.

Cod was very abundant from Harrington to Chicatica, between the 15th June and the 7th August, but it was only during the last ten days of this season, that they would take the bait at all freely. At the large fishing stations at Harrington and Mutton Bay, the fishermen took most of their fish in deep water. Bait was scarce after the passing of the capelin, and most of the cod was taken on clams. Fall herring were very scarce; only 75 brls. being taken against 1,441 the year before.

BONNE ESPERANCE.

Overseer Wm. Whitely reports that salmon were more abundant than last year. They ran freely for three days, about the 5th July, but slackened off immediately afterwards. The returns give 143 brls., as against 75 the year before.

Cod-fishing was good; the northern ice coming in through the straits in June somewhat delayed the fishery, but after the 27th June, when the fish struck the coast, they were very abundant for six weeks; unfortunately they would not take the bait, until during the last two weeks; seines and traps were successful.

The seal fishery was a failure, owing to the ice blocking the coast until the end of June.

Herring were very scarce; a few being taken at Bradore, and Middle Bay in the first days of August. This fishery has been a failure, as none were taken on the Newfoundland Labrador.

All the residents of this part of the Labrador are well provided for the winter. The prospects for the cod-fishery are brighter than for some years. Localities that have failed for years back, have this season been visited by codfish in abundance, reminding us all of old times. There was taken in this division 23,650 cwts. of cod, compared with 19,770 last year; this does not include the fish taken by vessels from Nova Scotia or Newfoundland.

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials,
County of Bonaventure, Province
RISTIGOUCHE SUB-DIVISION

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | |
|-------------------|--|----------|--------|--------|---------|--------|-------------------|--------|----------|--------|------------|--------|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Trap-Nets. | |
| | | | | | | | | | | | | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. |
| | | | ¢ | | | ¢ | | ¢ | | ¢ | | ¢ |
| Ristigouche..... | .. | .. | .. | .. | 19 | 90 | 19 | 5990 | 5990 | .. | 10 | 250 |

CARLETON SUB-DIVISION

| | | | | | | | | | | | | |
|---------------|----|----|----|----|-----|----|------|------|------|-----|----|----|
| Maguasha..... | .. | .. | .. | 6 | 90 | 7 | 1200 | 800 | .. | .. | .. | .. |
| Nouvelle..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Carleton..... | .. | .. | .. | 36 | 450 | 36 | 3966 | 2550 | 600 | 200 | .. | .. |
| Maria..... | .. | .. | .. | 30 | 240 | 30 | 2730 | 1600 | 600 | 200 | .. | .. |
| Totals..... | .. | .. | .. | 72 | 780 | 73 | 7893 | 4950 | 1200 | 400 | .. | .. |

BONAVENTURE SUB-DIVISION

| | | | | | | | | | | | | |
|-------------------|----|-----|------|-----|------|------|------|-------|------|------|------|----|
| New Richmond..... | .. | .. | .. | 30 | 300 | 25 | 930 | 470 | .. | .. | .. | .. |
| Black Capes..... | .. | .. | .. | 26 | 250 | 22 | 1835 | 1200 | .. | .. | .. | .. |
| Capelin..... | .. | .. | .. | 140 | 1560 | 90 | 5800 | 2600 | 130 | 75 | .. | .. |
| Bonaventure..... | .. | .. | .. | 210 | 2900 | 140 | 6940 | 3270 | 1050 | 650 | .. | .. |
| New Carlisle..... | .. | .. | .. | 50 | 524 | 50 | 700 | 600 | 500 | 400 | .. | .. |
| Paspébiac..... | 6 | 280 | 6000 | 28 | 105 | 1500 | 180 | 3500 | 1850 | 500 | 350 | .. |
| Totals..... | 6 | 280 | 6000 | 28 | 561 | 7034 | 507 | 19705 | 9990 | 2180 | 1475 | .. |

PORT DANIEL SUB-DIVISION

| | | | | | | | | | | | | |
|------------------------|----|----|----|-----|-------|-----|------|------|-----|-----|----|----|
| Paspébiac Portage..... | .. | .. | .. | 20 | 1260 | 50 | 800 | 400 | 60 | 100 | .. | .. |
| Nouvelle..... | .. | .. | .. | 30 | 2000 | 70 | 1200 | 600 | 120 | 180 | .. | .. |
| Shégawake..... | .. | .. | .. | 24 | 900 | 50 | 1200 | 600 | 20 | 30 | .. | .. |
| Point Loup-Marin..... | .. | .. | .. | 60 | 800 | 70 | 1200 | 600 | 60 | 90 | .. | .. |
| Port Daniel..... | .. | .. | .. | 40 | 1600 | 70 | 1400 | 700 | 100 | 150 | .. | .. |
| L'Anse à la Barbe..... | .. | .. | .. | 25 | 1500 | 60 | 1000 | 500 | 40 | 60 | .. | .. |
| L'Anse à Gascon..... | .. | .. | .. | 60 | 5000 | 150 | 3000 | 1200 | 160 | 240 | .. | .. |
| Totals..... | .. | .. | .. | 259 | 13060 | 520 | 9800 | 4600 | 560 | 850 | .. | .. |

TOTAL FOR COUNTY

| | | | | | | | | | | | | |
|-------------------------------|----|-----|------|-----|-------|-------|------|-------|-------|------|------|--------|
| Ristigouche Sub-division..... | .. | .. | .. | 19 | 90 | 19 | 5990 | 5990 | .. | .. | 10 | 250 |
| Carleton do..... | .. | .. | .. | 72 | 780 | 73 | 7893 | 4950 | 1200 | 400 | .. | .. |
| Bonaventure do..... | 6 | 280 | 6000 | 28 | 561 | 7034 | 507 | 19705 | 9990 | 2180 | 1475 | .. |
| Port Daniel do..... | .. | .. | .. | 259 | 13060 | 520 | 9800 | 4600 | 560 | 850 | .. | .. |
| Totals..... | 6 | 280 | 6000 | 28 | 911 | 20964 | 1119 | 43388 | 25530 | 3940 | 2725 | 10 250 |

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the
of Quebec, for the Year 1890.

(Head of the Tide to Maguasha).

| KINDS OF FISH. | | | | | | | | | FISH PRODUCTS. | | | VALUE. | |
|----------------|---------------------|-----------|-------------------|-------------------------|-----------------|----------------|-------------------------|---------------------------------|-------------------|-----------------------------|-------------------------------|--------|---|
| Smelts, lbs. | Salmon, fresh, lbs. | Cod, cwt. | Herring, barrels. | Herring, smoked, boxes. | Trout, barrels. | Eels, barrels. | Lobsters, in cans, lbs. | Coarse and mixed fish, barrels. | Cod oil, gallons. | Fish used as Bait, barrels. | Fish used as Manure, barrels. | | Fish used for Local Consumption, barrels. |
| 11000 | 33465 | | | | | | | | | | | | \$ cts. 7,243 00 |

(Maguasha to Grand Cascadepia).

| | | | | | | | | | | | | | |
|-------|-------|-------|-----|-------|-------|----|-------|-------|-------|------|------|----------|-----------|
| ..... | 4800 | ..... | 50 | ..... | 10 | 10 | ..... | ..... | ..... | 1000 | 500 | 3,860 00 | |
| ..... | 6850 | 185 | 200 | 100 | ..... | 20 | ..... | ..... | 95 | 30 | 3000 | 400 | 6,318 00 |
| ..... | 15684 | 200 | 250 | 100 | ..... | 27 | ..... | ..... | 100 | 50 | 4000 | 800 | 10,546 80 |
| ..... | 27334 | 385 | 500 | 200 | 10 | 57 | ..... | ..... | 195 | 80 | 8000 | 1700 | 20,724 80 |

(Grand Cascadepia to Paspébiac Point).

| | | | | | | | | | | | | | |
|-------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|------|-----------|
| ..... | 4117 | 70 | ..... | ..... | ..... | ..... | ..... | ..... | 30 | 70 | 400 | 240 | 2,380 40 |
| ..... | 8050 | 100 | ..... | ..... | ..... | ..... | ..... | ..... | 45 | 100 | 1250 | 290 | 3,963 00 |
| ..... | 600 | 500 | ..... | 100 | ..... | ..... | ..... | ..... | 250 | 200 | 2700 | 300 | 5,095 00 |
| ..... | 400 | 2000 | ..... | 200 | ..... | 17760 | ..... | ..... | 1000 | 800 | 6000 | 1600 | 21,261 20 |
| ..... | 500 | 500 | ..... | 50 | ..... | 14400 | ..... | ..... | 225 | 200 | 3500 | 400 | 7,580 50 |
| ..... | ..... | 1500 | ..... | ..... | ..... | ..... | ..... | ..... | 1000 | 700 | 5000 | 1000 | 13,950 00 |
| ..... | 13667 | 4670 | ..... | 350 | ..... | 32160 | ..... | ..... | 2550 | 2070 | 18850 | 3830 | 54,230 10 |

(Paspébiac Point to Point Maquereau).

| | | | | | | | | | | | | |
|-------|-------|------|----|-------|-------|-------|-------|------|------|------|------|-----------|
| ..... | 300 | 450 | 5 | ..... | ..... | ..... | 10 | 300 | 100 | 600 | 220 | 3,360 00 |
| ..... | ..... | 300 | 5 | ..... | ..... | 29952 | ..... | 200 | 120 | 500 | 234 | 6,260 24 |
| ..... | ..... | 250 | 4 | ..... | ..... | ..... | ..... | 150 | 150 | 500 | 300 | 2,751 00 |
| ..... | ..... | 300 | 4 | ..... | ..... | ..... | 4 | 200 | 100 | 800 | 125 | 2,358 00 |
| 12000 | 17929 | 900 | 5 | ..... | ..... | 25566 | ..... | 700 | 300 | 600 | 200 | 12,703 72 |
| ..... | 1400 | 500 | 6 | ..... | ..... | ..... | 5 | 300 | 200 | 700 | 75 | 3,389 00 |
| ..... | 700 | 1700 | 10 | ..... | ..... | 7776 | 10 | 1000 | 400 | 600 | 325 | 10,543 12 |
| 12000 | 20329 | 4400 | 39 | ..... | ..... | 63294 | 29 | 2850 | 1370 | 4300 | 1479 | 41,365 08 |

OF BONAVENTURE.

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| 11000 | 33465 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7,243 00 |
| ..... | 27334 | 385 | 500 | 200 | 10 | 57 | ..... | ..... | 195 | 80 | 8000 | 1700 | 20,724 80 |
| ..... | 13667 | 460 | ..... | 350 | ..... | ..... | 32160 | ..... | 2550 | 2070 | 18850 | 3830 | 54,230 10 |
| 12000 | 20329 | 4400 | 39 | ..... | ..... | ..... | 63294 | 29 | 2850 | 1370 | 4300 | 1479 | 41,365 08 |
| 23000 | 94795 | 9455 | 539 | 550 | 10 | 57 | 95454 | 29 | 5595 | 3520 | 31150 | 7009 | 123,562 98 |

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials
County of Gaspé, Province
GRAND RIVER

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | FISHING MATERIAL. | | | | Smeles, lbs. | Salmon, barrels. | Salmon, fresh, lbs. |
|------------------------|--|--------|------|-------------------|--------|----------|--------|--------------|------------------|---------------------|
| | Boats. | | | Nets. | | Seines. | | | | |
| | Number. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | | | |
| | | \$ | | | \$ | | \$ | | | |
| Newport Point. | 60 | 1900 | 120 | 1620 | 800 | | | | | |
| Newport. | 100 | 1850 | 150 | 2444 | 1280 | 200 | 300 | | | 1000 |
| Anse aux Canards. | 20 | 450 | 35 | 220 | 160 | 20 | 100 | | | 200 |
| Pabos. | 90 | 3675 | 135 | 1800 | 675 | 600 | 500 | 3080 | | 7500 |
| Grand River. | 120 | 7425 | 300 | 3800 | 1425 | 200 | 300 | | | 3900 |
| Cape Cove. | 120 | 7000 | 300 | 4800 | 2400 | 250 | 340 | | | |
| Perce' | 221 | 11050 | 663 | 11000 | 5500 | 500 | 240 | | | |
| Corner of Beach. | 20 | 520 | 20 | 300 | 150 | 60 | 250 | | | 4000 |
| Totals. | 751 | 33870 | 1723 | 26084 | 12390 | 1830 | 2030 | 3080 | | 16600 |

GASPE SUB-DIVISION

| | | | | | | | | | | |
|------------------------------|-----|-------|-----|-------|-------|------|------|-------|--|-------|
| Barachois. | 100 | 4000 | 100 | 1662 | 1650 | 280 | 335 | 23551 | | 7600 |
| Belle Anse. | 28 | 1120 | 28 | 950 | 440 | 20 | 20 | | | 300 |
| Malbaie. | 32 | 1280 | 32 | 820 | 400 | 56 | 84 | | | 295 |
| Point St. Peter. | 148 | 5850 | 147 | 3330 | 1555 | 80 | 157 | | | 100 |
| Chien Blanc. | 84 | 3360 | 84 | 1550 | 750 | 80 | 157 | | | |
| Bois Brûlé. | 18 | 650 | 18 | 240 | 180 | 20 | 20 | | | |
| Seal Cove. | 22 | 880 | 22 | 645 | 370 | | | | | 426 |
| Douglstown. | 40 | 760 | 40 | 920 | 770 | 80 | 60 | | | 2965 |
| Haldimand. | 10 | 300 | 10 | 345 | 305 | | | | | 200 |
| Sandy Beach. | 18 | 630 | 20 | 1817 | 1644 | 22 | 15 | | | 7082 |
| Gaspé, North and South. | 46 | 500 | 106 | 3916 | 3000 | 900 | 500 | 51114 | | 17575 |
| Peninsula. | 11 | 110 | 11 | 1429 | 1200 | | | | | 5777 |
| Cape aux Os. | 13 | 360 | 14 | 355 | 230 | 20 | 40 | | | 600 |
| Seal Rock. | 7 | 80 | 9 | 140 | 96 | 20 | 25 | | | |
| Little Gaspé. | 10 | 304 | 10 | 473 | 739 | | | | | 1434 |
| Grande Grève. | 24 | 1225 | 34 | 1018 | 220 | 82 | 160 | | | 1616 |
| St. George's Cove. | 18 | 810 | 17 | 259 | 590 | | | | | 122 |
| Indian Cove. | 22 | 880 | 16 | 360 | 275 | 20 | 32 | | | 364 |
| Ship Head. | 28 | 790 | 26 | 600 | 386 | 20 | 40 | | | |
| Totals. | 679 | 23829 | 744 | 20829 | 14800 | 1700 | 1645 | 74665 | | 46456 |

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1890.

(Point Macquereau to Barachois of Malbaie).

| KINDS OF FISH. | | | | | | | FISH PRODUCTS. | | | | VALUE. |
|----------------|---------------|---------------|-------------------|-----------------|----------------------------------|-------------------------|-------------------|--------------------------|-------------------------------|---|------------|
| Cod, cwt. | Haddock, cwt. | Halibut, lbs. | Herring, barrels. | Trout, barrels. | Cod Tongues and Scales, barrels. | Lobsters, in cans, lbs. | Cod Oil, gallons. | Fish used as Bait, bbls. | Fish used as Manure, barrels. | Fish used for Local Consumption, barrels. | |
| | | | | | | | | | | | \$ cts. |
| 3400 | 30 | 200 | | | 10 | | 2800 | 800 | 20 | 160 | 16,810 00 |
| 2000 | 26 | | 500 | | 25 | 9000 | 1300 | 900 | 1000 | 170 | 14,684 00 |
| 500 | | | 50 | | 2 | | 300 | 50 | 20 | 35 | 2,605 00 |
| 3000 | | | 200 | | 10 | 10000 | 2300 | 900 | 500 | 250 | 19,274 00 |
| 6500 | 15 | 200 | 200 | | 25 | 3000 | 3300 | 1300 | 250 | 520 | 33,745 00 |
| 8000 | | | 300 | | 10 | 28800 | 4000 | 1500 | 1300 | 410 | 42,896 00 |
| 12000 | 50 | 300 | 50 | | 5 | 11000 | 8500 | 2600 | 100 | 400 | 58,750 00 |
| 600 | 15 | 100 | 25 | | 2 | 6000 | 320 | 40 | 25 | 30 | 4,430 50 |
| 36000 | 136 | 800 | 1325 | | 89 | 67800 | 22820 | 8090 | 3215 | 1975 | 193,194 50 |

(Barachois of Malbaie to Cape Gaspé).

| | | | | | | | | | | | |
|-------|----|--|-----|--|--|-------|------|------|--|------|-----------|
| 2085 | | | 20 | | | | 1900 | 750 | | 235 | 13,942 55 |
| 490 | | | | | | 6528 | 300 | 280 | | 70 | 3,623 36 |
| 1067 | | | 10 | | | | 800 | 320 | | 60 | 5,407 00 |
| 5483 | | | | | | | 3140 | 1485 | | 20 | 25,515 50 |
| 1400 | | | 16 | | | 3648 | 800 | 840 | | 180 | 8,401 76 |
| 400 | | | 20 | | | 10176 | 200 | 180 | | 64 | 3,507 12 |
| 440 | | | 10 | | | 18916 | 300 | 220 | | 55 | 4,825 12 |
| 1000 | | | 75 | | | | 800 | 200 | | 300 | 6,713 00 |
| 100 | | | | | | | 75 | 75 | | 25 | 682 50 |
| 117 | | | | | | | 50 | 90 | | 60 | 2,279 40 |
| | | | | | | | | | | 150 | 6,670 70 |
| 15 | | | | | | | 8 | 4 | | 60 | 1,464 60 |
| 120 | | | 12 | | | 8108 | 85 | 20 | | 80 | 2,004 96 |
| 89 | | | 8 | | | | 60 | 15 | | 40 | 594 50 |
| 110 | | | 13 | | | | 80 | 20 | | 22 | 928 80 |
| 755 | 3 | | 23 | | | | 560 | 128 | | 16 | 3,927 20 |
| 254 | | | 11 | | | | 160 | 50 | | 30 | 1,343 40 |
| 512 | | | 4 | | | | 307 | 80 | | 40 | 2,530 60 |
| 360 | 29 | | 18 | | | | 270 | 60 | | 35 | 1,966 00 |
| 14797 | 32 | | 240 | | | 47376 | 9895 | 4817 | | 1542 | 96,337 07 |

RETURN showing the Number and Value of Vessels, Boats and
MAGDALEN RIVER SUB-DIVISION

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | FISHING MATERIAL. | | | | | | |
|--------------------------|--|--------|------|-------------------|--------|----------|--------|--------------|------------------|---------------------|
| | Boats. | | | Nets. | | Seines. | | Smelts, lbs. | Salmon, barrels. | Salmon, fresh, lbs. |
| | Number. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | | | |
| | | \$ | | | \$ | | \$ | | | |
| Cape des Rosiers | 270 | 3500 | 260 | 6500 | 2600 | 180 | 100 | | | |
| Anse à Grisfonds | 165 | 2950 | 160 | 3875 | 1550 | 140 | 150 | | | |
| Anse à Fougère | 6 | 80 | 6 | 100 | 44 | | | | | |
| Fox River | 125 | 3275 | 125 | 3000 | 2200 | 310 | 360 | | | |
| Little River | 24 | 420 | 24 | 525 | 220 | | | | | |
| Little Cape | 28 | 465 | 28 | 600 | 300 | | | | | |
| Grande Anse | 6 | 60 | 7 | 140 | 55 | | | | | |
| Echourie | 12 | 200 | 12 | 260 | 100 | | | | | |
| Pointe Jaune | 12 | 170 | 12 | 260 | 100 | | | | | |
| Anse à Valeau | 13 | 220 | 13 | 275 | 110 | | | | | |
| Grand Etang | 28 | 440 | 28 | 750 | 320 | 274 | 84 | | | |
| Pointe Sèche | 32 | 530 | 32 | 736 | 480 | | | | 1 | |
| Little Chlorydorme | 25 | 960 | 24 | 575 | 375 | | | | | |
| Big Chlorydorme | 22 | 320 | 18 | 506 | 330 | | | | 2 | |
| Little Cove | 19 | 260 | 18 | 460 | 240 | | | | | |
| Frigate Point | 21 | 240 | 21 | 500 | 270 | | | | | |
| Grande Vallée | 36 | 605 | 37 | 1000 | 400 | | | | 1 | |
| Magdalen River | 22 | 230 | 24 | 500 | 150 | 105 | 65 | | 7 | |
| Manche D'Epee | 12 | 120 | 12 | 240 | 120 | | | | | |
| Gros Mâle | 18 | 180 | 20 | 400 | 200 | | | | 1 | |
| L'Anse Pleureuse | 15 | 150 | 16 | 320 | 160 | | | | | |
| Monts Louis | 95 | 1350 | 112 | 1920 | 1080 | 80 | 65 | | | 2730 |
| Rivière à Pierre | 20 | 300 | 24 | 400 | 200 | | | | | |
| Totals | 1026 | 17005 | 1033 | 24842 | 11604 | 1089 | 824 | | 12 | 2730 |

Fishing Materials, &c., in the County of Gaspé, &c.—Continued.

(Cape Gaspé to Rivière à Pierre.)

| KINDS OF FISH. | | | | | | | FISH PRODUCTS. | | | | VALUE. |
|----------------|---------------|---------------|-------------------|-----------------|----------------------------------|-------------------------|-------------------|-----------------------------|-------------------------------|---|-----------|
| Cod, cwt. | Haddock, cwt. | Halibut, lbs. | Herring, barrels. | Trout, barrels. | Cod Tongues and Soulds, barrels. | Lobsters, in cans, lbs. | Cod Oil, gallons. | Fish used as Bait, barrels. | Fish used as Manure, barrels. | Fish used for Local Consumption, barrels. | |
| 3700 | | 4300 | 100 | | | | 2000 | 800 | | 320 | \$ cts. |
| 2800 | | | 70 | | | | 1850 | 250 | | 100 | 18,910 00 |
| 85 | | 200 | 4 | | | | 60 | 290 | | 8 | 12,995 00 |
| 2850 | | 1400 | 75 | | 9 | | 2200 | 850 | | 300 | 867 00 |
| 350 | | 2000 | 15 | | | | 225 | 75 | | 25 | 15,285 00 |
| 450 | | 200 | 20 | | | | 300 | 100 | | 40 | 1,962 50 |
| 100 | | 400 | 5 | | | | 90 | 30 | | 10 | 2,330 00 |
| 220 | | 400 | 8 | | | | 170 | 63 | | 15 | 581 00 |
| 255 | | 200 | 8 | | | | 200 | 70 | | 14 | 1,174 50 |
| 320 | | 400 | 10 | | | | 200 | 70 | | 30 | 1,313 00 |
| 1000 | | 1400 | 8 | | 3 | | 800 | 270 | | 20 | 1,665 00 |
| 900 | | 1400 | 6 | | 4 | | 600 | 200 | | 120 | 5,007 00 |
| 525 | | 2800 | 3 | | 3 | | 350 | 120 | | 100 | 4,840 00 |
| 400 | | 2400 | 3 | | 2 | | 270 | 90 | | 100 | 3,142 00 |
| 400 | | 200 | 4 | | 2 | | 270 | 90 | | 100 | 2,547 00 |
| 500 | | 1200 | 3 | | 2 | | 350 | 120 | | 50 | 1,939 00 |
| 850 | | 2000 | 15 | 2 | 1 | | 350 | 120 | | 120 | 2,672 00 |
| 450 | | 1200 | 10 | | | | 250 | 83 | | 36 | 4,506 00 |
| 200 | | | 6 | | | | 100 | 33 | | 10 | 2,440 50 |
| 370 | | | 7 | | | | 260 | 85 | | 10 | 953 50 |
| 300 | | | 5 | | | | 200 | 75 | | 10 | 1,795 50 |
| 1600 | | 400 | 25 | | 1 | | 800 | 275 | | 150 | 1,452 50 |
| 380 | | | 10 | | | | 275 | 92 | | 15 | 8,428 50 |
| 19005 | | 22500 | 420 | 2 | 27 | | 12170 | 4251 | | 1613 | 1,868 00 |
| | | | | | | | | | | | 98,674 50 |

**RETURN showing the Number and Value of Vessels, Boats and
STE. ANNE DES MONTS SUBDIVISION.—**

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | Smelts, lbs. | Salmon, barrels. | Salmon, fresh. |
|------------------------|--|----------|--------|--------|---------|--------|-------------------|----------|---------|----------|------------|---------|--------------|------------------|----------------|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Trap-nets. | | | | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | Number. |  |  |  | Value. |
| | | \$ | | | % | | | | \$ | | \$ | \$ | | | |
| Claude River | | | | | 17 | 500 | 34 | 530 | 233 | | | | | 7 | |
| Marsouls | | | | | 7 | 280 | 15 | 180 | 120 | | | | | | |
| Martin River | | | | | 5 | 200 | 10 | 160 | 115 | | | | | 1 | |
| Ste. Anne | | | | | 50 | 2000 | 100 | 1550 | 865 | 256 | 98 | | | | 1583 |
| Cape Chatte | | | | | 20 | 800 | 40 | 450 | 250 | 106 | 60 | | | 3 | |
| Totals | | | | | 99 | 3780 | 199 | 2870 | 1583 | 362 | 158 | | | 11 | 1583 |

MAGDALEN ISLANDS

| | | | | | | | | | | | | | | | |
|------------------------------|----|-----|-------|-----|-----|-------|------|-------|------|------|------|-----|-----|--|--|
| Entry Island | | | | | 12 | 360 | 30 | 800 | 400 | | | | | | |
| Amherst Island | 5 | 171 | 6500 | 16 | 131 | 4135 | 320 | 15900 | 6225 | 1325 | 3550 | | | | |
| Grindstone do | 9 | 370 | 12900 | 48 | 139 | 4190 | 418 | 280 | 140 | 380 | 790 | | | | |
| Allright do | 7 | 300 | 9000 | 51 | 30 | 1300 | 146 | 8850 | 1925 | 120 | 400 | | | | |
| Wolf do | | | | | 33 | 815 | 80 | 800 | 300 | | | | | | |
| Grand Entry Island | | | | | 22 | 660 | 52 | 160 | 80 | | 1 | 400 | | | |
| Grossee do | | | | | 14 | 420 | 36 | | | | | | | | |
| Bryon do | | | | | 32 | 960 | 82 | 300 | 150 | | | | | | |
| Totals | 21 | 841 | 28400 | 115 | 413 | 12840 | 1164 | 19090 | 9220 | 1825 | 4740 | 1 | 400 | | |

TOTAL FOR THE

| | | | | | | | | | | | | | | | |
|----------------------------|----|-----|-------|-----|------|-------|------|-------|-------|------|------|---|-------|----|-------|
| Subdivisions— | | | | | | | | | | | | | | | |
| Grand River | | | | | 751 | 33870 | 1723 | 26084 | 12390 | 1830 | 2030 | | 3080 | | 16600 |
| Caspé | | | | | 679 | 23829 | 744 | 20829 | 11800 | 1700 | 1645 | | 74665 | | 46456 |
| Magdalen River | | | | | 1026 | 17005 | 1033 | 24842 | 11604 | 1089 | 824 | | | 12 | 2730 |
| Ste. Anne | | | | | 99 | 3780 | 199 | 2870 | 1583 | 362 | 158 | | | 11 | 1583 |
| Magdalen Islands | 21 | 841 | 28400 | 115 | 413 | 12840 | 1164 | 19090 | 9220 | 1825 | 4740 | 1 | 400 | | |
| Totals | 21 | 841 | 28400 | 115 | 2968 | 91324 | 4863 | 93715 | 49597 | 6806 | 9397 | 1 | 400 | 23 | 67369 |

Fishing Materials, &c., in the County of Gaspé.—*Concluded.*

(River à Pierre to Cap Chatte.)

| KINDS OF FISH. | | | | | | | FISH PRODUCTS. | | | | | | | VALUE. | | | |
|----------------|---------------|---------------|-------------------|--------------------|-----------------|------------------------------|------------------------|-----------------|------------------|----------------------|-------------------|-----------------|-----------------------------|-------------------------------|---|--------|------|
| Cod, cwt. | Haddock, cwt. | Halibut, lbs. | Herring, barrels. | Mackerel, barrels. | Trout, barrels. | Cod Tongues and Sounds, lbs. | Lobster, in cans, lbs. | Seal Skins, No. | Seal Oil, galls. | Porpoise Oil, galls. | Whale Oil, galls. | Cod Oil, galls. | Fish used as bait, barrels. | Fish used as manure, barrels. | Fish used for Local Consumption, barrels. | \$ | cts. |
| 800 | | 160 | 60 | | | | | | | | | 400 | 30 | 200 | 150 | 4,473 | 00 |
| 410 | | | 20 | | 2 | | | | | | | 205 | 28 | 158 | 42 | 2,111 | 00 |
| 800 | | 460 | 25 | | 1 | 1 | | | | | | 400 | 21 | 85 | 30 | 3,736 | 00 |
| 1850 | | 3000 | 175 | | 14 | | | | | 65 | 190 | 925 | 75 | 80 | 321 | 10,765 | 10 |
| 595 | | 2200 | 80 | | 6 | | | | | 90 | | 297 | 50 | | 200 | 4,057 | 80 |
| 4455 | | 5820 | 360 | | 23 | 1 | | | | 155 | 190 | 2227 | 204 | 523 | 743 | 25,142 | 90 |

SUBDIVISION.

| | | | | | | | | | | | | | | | |
|------|------|------|-----|------|-----|-----|--------|-------|-------|-----|------|-------|-----|------|------------|
| 120 | 20 | ... | 50 | 200 | ... | ... | 50 | 250 | ... | ... | 100 | 50 | ... | 40 | 4,185 00 |
| 4430 | 540 | 3360 | 248 | 1042 | ... | 21 | 57600 | 3808 | 29250 | ... | 3460 | 14065 | 700 | 675 | 84,999 50 |
| 2960 | 430 | 3000 | ... | 1652 | ... | 10 | 93648 | 6070 | 24915 | ... | 1590 | 2180 | ... | 750 | 72,879 76 |
| 810 | 309 | ... | 50 | 680 | ... | ... | 16320 | 1500 | 7300 | ... | 385 | 480 | 80 | 610 | 23,492 40 |
| 100 | 15 | ... | ... | 480 | ... | ... | 6480 | ... | ... | ... | 60 | 300 | ... | 100 | 9,311 60 |
| 120 | 30 | ... | ... | 240 | ... | ... | 153600 | ... | ... | ... | 80 | 800 | 60 | 220 | 24,774 00 |
| 45 | 5 | ... | ... | 196 | ... | ... | ... | ... | ... | ... | 20 | 150 | 40 | 100 | 3,793 00 |
| 450 | 60 | ... | ... | 528 | ... | ... | 13440 | 200 | 1000 | ... | 260 | 350 | ... | 50 | 13,001 80 |
| 9025 | 1130 | 6360 | 348 | 5018 | ... | 31 | 341088 | 11628 | 62715 | ... | 5955 | 18375 | 880 | 2545 | 236,437 06 |

COUNTY OF GASPÉ.

| | | | | | | | | | | | | | | | | | |
|-------|-------|-------|------|-------|-------|-------|--------|-------|-------|-------|------|-------|-------|---------|---------|---------|----|
| 36000 | 136 | 800 | 1325 | ..... | 89 | 67800 | ..... | ..... | ..... | 22820 | 8090 | 3215 | 1975 | 193,194 | 50 | | |
| 14797 | 32 | | 240 | ..... |  | 47376 | ..... | ..... | ..... | 9895 | 4817 | ..... | 1542 | 96,337 | 07 | | |
| 19005 | ..... | 22500 | 420 | ..... | 2 | 27 | ..... | ..... | ..... | 12170 | 4251 | ..... | 1613 | 98,674 | 50 | | |
| 4455 | | 5820 | 360 | | 23 | 1 | | | 155 | 190 | 2227 | 204 | 523 | 743 | 25,142 | 90 | |
| 9025 | 1130 | 6360 | 348 | 5018 | | 31 | 341088 | 11628 | 62715 | | 5955 | 18375 | 880 | 2545 | 236,437 | 06 | |
| 83282 | 1298 | 35480 | 2693 | 5018 | 25 | 148 | 456264 | 11628 | 62715 | 155 | 190 | 53067 | 35737 | 4618 | 8418 | 649,786 | 03 |

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials,
County of Saguenay, Province

POINT DES MONTS SUB-DIVISION

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | |
|----------------------|---|----------|--------|--------|---------|--------|-------------------|----------|---------|----------|------------|---------|--------|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Trap-Nets. | | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. |
| | | | ¢ | | | ¢ | | | ¢ | | ¢ | | |
| Manicouagan..... | 5 | 90 | 2500 | 11 | 102 | 2115 | 130 | 5200 | 2600 | 620 | 800 | 1 | 300 |
| Godbout..... | | | | | | | | | | | | | |
| Point des Monts..... | | | | | | | | | | | | | |
| Trinity Bay..... | | | | | | | | | | | | | |
| Cariboo Islets..... | | | | | | | | | | | | | |
| Egg Island..... | | | | | | | | | | | | | |
| English Point..... | | | | | | | | | | | | | |
| Pentecost..... | | | | | | | | | | | | | |
| Cailles Rouges..... | | | | | | | | | | | | | |

MOISIE SUB-DIVISION

| | | | | | | | | | | | |
|----------------------|---|-----|------|----|----|------|-----|-------|------|------|------|
| Jambons..... | 1 | 14 | 300 | 4 | 15 | 839 | 26 | 1295 | 990 | 73 | 112 |
| Ste. Marguerite..... | | | | | 2 | 80 | 4 | 629 | 600 | 50 | 30 |
| Seven Islands..... | 3 | 75 | 1400 | 12 | 28 | 1780 | 50 | 2325 | 2300 | 670 | 600 |
| Moisie..... | 1 | 54 | 300 | 4 | 20 | 1800 | 70 | 5475 | 4700 | 547 | 400 |
| Pigou..... | | | | | 4 | 150 | 8 | 258 | 250 | 425 | 400 |
| Totals..... | 5 | 143 | 2000 | 20 | 69 | 4649 | 158 | 10182 | 8840 | 1765 | 1542 |

MINGAN SUB-DIVISION

| | | | | | | | | | | | |
|-----------------------|----|-----|-------|-----|-----|-------|-----|------|------|------|------|
| Chaloupe..... | | | | | 5 | 200 | 7 | 60 | 35 | 30 | 70 |
| Little River..... | | | | | 4 | 160 | 8 | 60 | 35 | 30 | 70 |
| Sheldrake..... | | | | | 37 | 1850 | 75 | 200 | 200 | 110 | 380 |
| Thunder River..... | | | | | 52 | 2600 | 112 | 155 | 155 | 210 | 840 |
| Dock..... | | | | | 24 | 1200 | 48 | 100 | 100 | 100 | 100 |
| Rich Point..... | | | | | 20 | 1000 | 50 | 75 | 75 | 50 | 100 |
| Jupitagan..... | | | | | 4 | 175 | 4 | 120 | 120 | 50 | 100 |
| Magpie..... | | | | | 97 | 4850 | 234 | 500 | 500 | 150 | 300 |
| St. John's River..... | | | | | 56 | 2800 | 130 | 1500 | 1500 | 200 | 400 |
| Long Point..... | | | | | 20 | 1000 | 45 | 200 | 200 | 150 | 300 |
| Mingan..... | | | | | 3 | 120 | 2 | 150 | 100 | | |
| Esquimaux Point..... | 22 | 550 | 17600 | 132 | 102 | 1040 | 100 | 2000 | 750 | 500 | 500 |
| La Corneille..... | | | | | 2 | 60 | 3 | 200 | 175 | | |
| Piashter Bay..... | | | | | 2 | 60 | 2 | 150 | 125 | | |
| Totals..... | 22 | 550 | 17600 | 132 | 428 | 17115 | 820 | 5470 | 4070 | 1580 | 3160 |

the Number of Men Employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1890.

(Manicouagan to Jambons.)

| KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | | | Fish used for Local Consumption, | | VALUE. |
|----------------|----------------|-----------|---------------|----------------|------------------------|-----------------|--------------|----------------------------------|-----------------|---------------------|------------------|----------------------|-----------------|--------------------------|-------------------------------|---|--------|--------|
| Salmon, brls. | Salmon, fresh. | Cod, cwt. | Halibut, lbs. | Herring, brls. | Herring, smoked, boxes | Mackerel, brls. | Trout, brls. | Cod Tongues and Sounds, brls. | Seal Skins, No. | Porpoise Skins, No. | Seal Oil, galls. | Porpoise Oil, galls. | Cod Oil, galls. | Fish used as Bait, brls. | Fish used as Manure, brls. | Fish used for Local Consumption, brls. | ¢ | cts. |
| ... | 61465 | 4761 | 14200 | 469 | ... | 5 | 1 | 2 | 314 | 3 | 1570 | 200 | 2380 | 180 | ... | 160 | 37,637 | 00 |

(Jambons to Pigou.)

| | | | | | | | | | | | | | | | | | |
|---|--------|------|-------|-----|-----|--|----|----|-----|----|------|-----|------|-----|----|-----|-----------|
| | | 569 | 2865 | 215 | 28 | | | 9 | 72 | 43 | 355 | 175 | 400 | 56 | 11 | 15 | 4,328 00 |
| 1 | 5328 | 130 | 300 | 10 | | | 3 | 1 | 4 | | 25 | | 85 | 13 | 2 | 5 | 1,800 10 |
| 2 | 16688 | 1989 | 15925 | 247 | 279 | | 1 | 9 | 130 | 29 | 457 | 370 | 1000 | 200 | 5 | 60 | 15,624 15 |
| 3 | 131819 | 967 | 3321 | | | | 6 | 6 | 58 | | 165 | | 500 | 96 | | 75 | 31,499 90 |
| | | 200 | 430 | 7 | 8 | | | 2 | 4 | | 21 | | 100 | 20 | | 10 | 1,015 40 |
| 6 | 153835 | 3855 | 22841 | 479 | 315 | | 10 | 27 | 268 | 72 | 1023 | 545 | 2085 | 385 | 18 | 165 | 54,267 55 |

(Pigou to Wataheeshoo.)

| | | | | | | | | | | | | | | | | |
|-----|-------|-------|------|-----|-----|-----|-----|------|-----|------|-----|------|------|-----|------|------------|
| ... | 120 | 430 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 215 | 40 | ... | 10 | 709 00 |
| ... | 120 | 450 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 225 | 40 | ... | 12 | 723 00 |
| 7 | 2800 | 1000 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1400 | 200 | ... | 100 | 12,672 00 |
| ... | 1500 | 500 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 750 | 250 | ... | 156 | 7,349 00 |
| ... | 1150 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 575 | 115 | ... | 18 | 5,074 50 |
| ... | 1000 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 500 | 100 | ... | 17 | 4,418 00 |
| 13 | 200 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 100 | 20 | ... | 5 | 1,098 00 |
| 15 | 4850 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2425 | 500 | ... | 220 | 22,240 00 |
| ... | 52000 | 3360 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1680 | 400 | ... | 200 | 25,912 00 |
| ... | 1000 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 500 | 150 | ... | 43 | 4,597 00 |
| 15 | ... | ... | ... | ... | ... | ... | ... | 100 | ... | 300 | ... | ... | ... | ... | 2 | 468 00 |
| ... | 1500 | ... | 900 | ... | ... | ... | ... | 2000 | ... | 6000 | ... | 750 | 300 | ... | 400 | 16,350 00 |
| 6 | ... | ... | ... | ... | ... | ... | ... | 25 | ... | 100 | ... | ... | ... | ... | 2 | 169 00 |
| 12 | ... | ... | ... | ... | ... | ... | ... | 30 | ... | 120 | ... | ... | ... | ... | 3 | 282 00 |
| 68 | 52000 | 17600 | 2380 | 900 | ... | ... | ... | 2155 | ... | 6320 | ... | 9120 | 2115 | ... | 1188 | 102,061 50 |

RETURN showing the Number and Value of Vessels, Boats,

NATASHQUAN SUB-DIVISION

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | |
|--------------------------|---|----------|--------|------|---------|--------|-------------------|--------|----------|--------|
| | Vessels. | | | | Boats. | | Nets. | | Seines. | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Fathoms. | Value. | Fathoms. | Value. |
| | | | \$ | | | \$ | | \$ | | \$ |
| Nabissippi | | | | | 2 | 100 | 4 | 500 | 200 | |
| Agwanus | 1 | 18 | 400 | 7 | 7 | 250 | 14 | 580 | 230 | |
| Washtawooka | | | | | 1 | 50 | 2 | 60 | 30 | 24 |
| Natashquan Harbour | | | | | 33 | 1650 | 66 | 2000 | 600 | 120 |
| Natashquan Village | 5 | 106 | 2000 | 35 | 18 | 720 | 40 | 1330 | 500 | 75 |
| Natashquan River | | | | | 3 | 140 | 6 | 3200 | 1050 | 25 |
| Totals | 6 | 124 | 2400 | 42 | 64 | 2910 | 132 | 7670 | 2610 | 244 |

WASHEECOOTAI SUB-DIVISION

| | | | | | | | | | | | |
|----------------------------------|---|----|-----|---|----|-----|----|------|-----|-----|-----|
| Kegashka | | | | | 5 | 150 | 4 | 100 | 100 | 70 | 30 |
| Mistassini | | | | | 2 | 77 | 2 | 60 | 60 | 48 | 18 |
| Curlew Point and Musquarro | | | | | 5 | 80 | 4 | 140 | 140 | | |
| Washeecootai River | | | | | 4 | 66 | 3 | 400 | 400 | 40 | 20 |
| Romaine East | | | | | 4 | 150 | 3 | 200 | 200 | 30 | 30 |
| Old Romaine | 1 | 29 | 700 | 8 | 2 | 80 | 8 | 35 | 30 | 35 | 35 |
| Coacoachoo | | | | | 4 | 68 | 3 | 100 | 50 | | |
| Totals | 1 | 29 | 700 | 8 | 26 | 671 | 27 | 1035 | 980 | 228 | 133 |

Nets, &c., in the County of Saguenay, &c.—Continued.

(Watsheeshoo to English Point.)

| KINDS OF FISH. | | | | | | | | FISH PRODUCTS. | | | | Fish used for Local Consumption, barrels. | VALUE. | |
|------------------|---------------------|-----------|---------------|-------------------|-----------------|----------------------------------|------------------------|-----------------|------------------|----------------------|-----------------|---|--------|--------------------------|
| Salmon, barrels. | Salmon, fresh, lbs. | Cod, cwt. | Halibut, lbs. | Herring, barrels. | Trout, barrels. | Cod Tongues and Scales, barrels. | Lobsters in Cans, lbs. | Seal Skins, No. | Seal Oil, galls. | Porpoise Oil, galls. | Cod Oil, galls. | | | Fish used as bait, brls. |
| 4 | 2670 | 45 | | | 1 | | | | | | 30 | 15 | 20 | \$ cts. |
| 10 | 7920 | 270 | 600 | | 2 | 1 | | 30 | 125 | | 150 | 50 | 35 | 902 50 |
| 2½ | 800 | 70 | | | | | | | | | 50 | 10 | 4 | 3,269 00 |
| | 140 | 900 | 1800 | 10 | | 2 | | | | 4 | 750 | 300 | 50 | 531 00 |
| | 10310 | 800 | 2400 | 82 | | 3 | | 465 | 1888 | | 600 | 200 | 90 | 4,819 60 |
| | 29150 | 50 | | 30 | 3 | | | 7 | 30 | | 20 | 15 | 20 | 7,980 20 |
| 16½ | 50090 | 2135 | 4800 | 122 | 6 | 6 | | 502 | 2043 | 4 | 1600 | 590 | 219 | 6,309 50 |
| | | | | | | | | | | | | | | 23,811 80 |

(English Point to Coacoachoo.)

| | | | | | | | | | | | | | | |
|----|--|-----|--|----|----|--|------|----|----|--|----|----|----|----------|
| 10 | | 188 | | 1 | | | | 7 | 19 | | 94 | 13 | 6 | 1,011 70 |
| 5 | | 4 | | 3 | | | | 10 | 21 | | 2 | 3 | 2 | 139 70 |
| 3 | | | | | 2½ | | | | | | | | 3 | 85 00 |
| 8 | | | | | | | | | | | | | 1 | 132 00 |
| 8 | | | | | 2 | | | | | | | | 10 | 188 00 |
| | | | | 11 | | | 4500 | | | | | | 2 | 592 00 |
| 2 | | | | | 3 | | | 10 | 21 | | | | 2 | 63 40 |
| 36 | | 192 | | 15 | 5 | | 4500 | 27 | 61 | | 96 | 16 | 26 | 2,211 80 |

RETURN showing the Number and Value of Vessels, Boats,
ST. AUGUSTIN SUB-DIVISION

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | |
|------------------------------|---|----------|--------|------|---------|--------|-------------------|--------|----------|--------|---------------|--------|
| | Vessels. | | | | Boats. | | Nets. | | Seines. | | Trap Nets. | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. |
| | | | \$ | | | \$ | | \$ | | \$ | | \$ |
| Wolf Bay | 3 | | | | 150 | 4 | 150 | 100 | 40 | 28 | | |
| Etamamu | 1 | | | | 20 | 2 | 200 | 180 | | | | |
| Point à Mourier | 2 | | | | 125 | 2 | 150 | 120 | | | | |
| Harrington | 26 | | | | 1300 | 28 | 200 | 150 | 500 | 700 | 1 | 200 |
| Little Meccatina | 5 | | | | 40 | 7 | 80 | 80 | 50 | 40 | | |
| Whale Head | 20 | | | | 210 | 23 | 760 | 700 | 240 | 200 | 1 | 300 |
| Mutton Bay | 31 | | | | 1308 | 37 | 360 | 250 | 600 | 500 | 1 | 180 |
| Grand Meccatina | 3 | | | | 100 | 6 | 100 | 100 | 100 | 95 | 1 | 250 |
| La Tabatière | 8 | | | | 200 | 11 | 611 | 500 | 200 | 140 | | |
| Grand Meccatina Island | 3 | | | | 100 | 2 | 150 | 100 | 100 | 75 | | |
| Kecapoe | 4 | | | | 120 | 6 | 410 | 300 | | | | |
| Pocachou | 2 | | | | 100 | 3 | 200 | 200 | | | | |
| Rigolet | 2 | | | | 60 | 2 | 340 | 180 | | | | |
| St. Augustin River | 2 | | | | 60 | 2 | 137 | 125 | | | | |
| St. Augustin Bay | 3 | | | | 75 | 3 | 200 | 100 | | | | |
| Caucasippi | 2 | | | | 42 | 2 | 660 | 480 | | | | |
| Sandy Island | 2 | | | | 150 | 4 | 300 | 200 | | | | |
| Point à Giroux | 2 | | | | 70 | 1 | 120 | 96 | | | | |
| L'Anse au Portage | 2 | | | | 70 | 1 | 180 | 100 | | | | |
| Canso | 2 | | | | 50 | 1 | 150 | 100 | | | | |
| Chicatica | 3 | | | | 150 | 6 | 170 | 120 | 100 | 50 | | |
| Totals | 126 | | | | 4500 | 153 | 5628 | 4281 | 1930 | 1828 | 4 | 930 |

Nets, &c., in the County of Saguenay, &c.—*Continued.*

(Coacoachoo to Chicatica).

| KINDS OF FISH. | | | | | | | | FISH PRODUCTS. | | | | Fish used for Local Consumption, brls. | VALUE. | |
|--------------------------------|---------------------|-----------------------|-----------|---------------|---------------|----------------|--------------|-----------------|------------------|-----------------|--------------------------|---|--------|-----------|
| Salmon, brls. | Salmon, fresh, lbs. | Salmon, in cans, lbs. | Cod, cwt. | Haddock, cwt. | Halibut, lbs. | Herring, brls. | Trout, brls. | Seal Skins, No. | Seal Oil, galls. | Cod Oil, galls. | Fish used as bait, brls. | Fish used as manure, brls. | | |
| | | | | | | | | | | | | | \$ | cts. |
| 12 ¹ / ₂ | | | 135 | | | | | | | 100 | 20 | | 5 | 638 00 |
| 2 ¹ / ₂ | | | 32 | | | | | 60 | 180 | 20 | 7 | | 3 | 204 00 |
| 1 | | | 1820 | | | | | | | 1200 | 340 | | 2 | 294 50 |
| 6 | | | 145 | | | | | | | 100 | 15 | | 60 | 8,542 00 |
| 12 | | | 1060 | | | | | 135 | 405 | 750 | 160 | | 10 | 698 50 |
| 1 | | | 2140 | | | | | 75 | 225 | 1420 | 214 | | 30 | 5,293 00 |
| 13 | | | 345 | | | 25 | | 18 | 54 | 275 | 34 | | 80 | 10,126 00 |
| | | | 177 | | | 50 | | 400 | 1200 | 115 | 17 | | 6 | 1,720 00 |
| | | | 27 | | | | | 23 | 69 | 18 | 10 | | 20 | 2,147 50 |
| 7 | | | 30 | | | | 5 | 43 | 129 | 20 | 10 | | 3 | 192 80 |
| 7 | | | 25 | | | | | 25 | 75 | 16 | 10 | | 12 | 447 60 |
| 1 | | | | | | | 3 | | | | | | 3 | 300 40 |
| 3 | | | | | | | 5 | | | | | | 2 | 54 00 |
| 1 | | | | | | | 5 | | | | | | 3 | 110 00 |
| 14 | | | | | | | 5 | | | | | | 4 | 82 00 |
| 1 | | | | | | | 7 | | | | | | 1 | 322 00 |
| 6 | | | 27 | | | | 9 | 40 | 120 | 17 | 10 | | 3 | 335 80 |
| 6 | | | 125 | | | | | 30 | 90 | 90 | 20 | | 3 | 674 00 |
| 6 | | | 66 | | | | | | | 40 | 15 | | 3 | 476 50 |
| 2 | | | 240 | | | | | | | 150 | 25 | | 8 | 1,121 50 |
| 96 | | | 6394 | | | 75 | 34 | 849 | 2547 | 4331 | 907 | | 267 | 33,780 70 |

**RETURN showing the Number and Value of Vessels, Boats,
BONNE ESPÉRANCE SUB-DIVISION**

| Name of District. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | |
|-----------------------|---|----------|--------|------|---------|--------|-------------------|--------|----------|--------|------------|--------|
| | Vessels. | | | | Boats. | | Nets. | | Seines. | | Trap-Nets. | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. |
| | | | \$ | | | \$ | | \$ | | \$ | | \$ |
| Bull Cove..... | | | | | 5 | 110 | 3 | 300 | 250 | | | |
| Rocky Bay..... | | | | | 9 | 210 | 14 | 200 | 200 | 112 | 80 | |
| Lydias' Cove..... | | | | | 3 | 100 | 4 | 200 | 200 | | | |
| Dog Islands..... | | | | | 5 | 140 | 3 | 1200 | 700 | | | |
| Pêche à Lizotte..... | | | | | 2 | 40 | 2 | 100 | 100 | | | |
| Old Fort Island..... | | | | | 15 | 500 | 30 | 100 | 50 | | | |
| St. Paul's River..... | | | | | 5 | 110 | 6 | 1200 | 600 | | | |
| Bonne Espérance..... | 1 | 40 | 1500 | 8 | 70 | 4800 | 150 | 400 | 400 | 1525 | 2180 | 2 400 |
| Burnt Island..... | | | | | 10 | 600 | 19 | | | 312 | 300 | |
| Pigeon Island..... | | | | | 10 | 700 | 20 | 300 | 300 | 512 | 590 | |
| Stick Point..... | | | | | 7 | 300 | 10 | 600 | 600 | 100 | 100 | |
| Salmon Bay..... | | | | | 60 | 3400 | 140 | 200 | 200 | 1240 | 1100 | |
| Little Fishery..... | | | | | 3 | 90 | 3 | 100 | 100 | 200 | 100 | |
| Five Leagues..... | | | | | 4 | 140 | 6 | 150 | 150 | 110 | 70 | |
| Middle Bay..... | | | | | 40 | 1700 | 60 | 1000 | 850 | 1020 | 1090 | 2 400 |
| Belles Amours..... | | | | | 3 | 80 | 3 | 100 | 50 | | | |
| Bradore Bay..... | | | | | 30 | 1200 | 40 | 500 | 500 | 820 | 880 | 2 400 |
| L'Anse des Dunes..... | | | | | 10 | 400 | 12 | 1000 | 500 | | | |
| Long Point..... | | | | | 10 | 300 | 8 | 1000 | 400 | 100 | 40 | 1 200 |
| Gulch Cove..... | | | | | 15 | 500 | 20 | 300 | 300 | 100 | 40 | 1 200 |
| Green Island..... | | | | | 40 | 1800 | 60 | 600 | 600 | 1600 | 1910 | 1 200 |
| Blancs Sablons..... | | | | | 10 | 320 | 8 | 1000 | 600 | 100 | 50 | |
| Totals..... | 1 | 40 | 1500 | 8 | 366 | 17540 | 621 | 10550 | 8650 | 7851 | 8530 | 9 1800 |

Nets, &c., in the County of Saguenay, &c.—*Continued.*

(Chicatica to Blancs Sablons.)

| KINDS OF FISH. | | | | | | | | FISH PRODUCTS. | | | | Fish used for Local Consumption, barrels. | VALUE. |
|------------------|---------------------|-----------------------|-----------|---------------|---------------|-------------------|-----------------|-----------------|------------------|-----------------|--------------------------|--|------------|
| Salmon, barrels. | Salmon, fresh, lbs. | Salmon, in cans, lbs. | Cod, cwt. | Haddock, cwt. | Halibut, lbs. | Herring, barrels. | Trout, barrels. | Seal Skins, No. | Seal Oil, galls. | Cod Oil, galls. | Fish used as bait, brls. | Fish used as manure, brls. | |
| 12 | | | 80 | | | | 4 | 10 | 50 | 50 | 20 | 4 | \$ 648 00 |
| 10 | | | 400 | | | | 4 | 10 | 50 | 250 | 100 | 12 | 2,128 00 |
| 12 | | | 50 | | | | 4 | 55 | 275 | 40 | 30 | 4 | 674 00 |
| 3 | | | 40 | | | | 2 | 105 | 525 | 25 | 20 | 4 | 599 00 |
| 4 | | | 10 | | | | 4 | | | 7 | 10 | 4 | 177 80 |
| | | | 600 | | | | 10 | 45 | 225 | 400 | 200 | 50 | 3,295 00 |
| 55 | | | | | | | 10 | 10 | 50 | | | 4 | 1,026 00 |
| 6 | | | 6000 | | | | | | | 4000 | 1000 | 300 | 28,396 00 |
| | | | 1200 | | | | | | | 700 | 300 | 30 | 5,650 00 |
| 8 | | | 600 | | | | | | | 420 | 200 | 30 | 3,116 00 |
| 10 | | | 200 | | | | 4 | | | 120 | 50 | 20 | 1,203 00 |
| 8 | | | 5000 | | | | | | | 3500 | 1000 | 300 | 24,228 00 |
| 10 | | | 50 | | | | | 20 | 100 | 40 | 25 | 10 | 513 50 |
| 5 | | | 100 | | | 25 | | 50 | 250 | 75 | 50 | 20 | 915 00 |
| | | | 2400 | | | 400 | | | | 1500 | 600 | 150 | 13,300 00 |
| | | | 20 | | | | | | | 12 | 20 | 10 | 154 80 |
| | | | 2500 | | | 500 | | 100 | 500 | 1600 | 600 | 120 | 14,320 00 |
| | | | 100 | | | | | 100 | 500 | 60 | 30 | 30 | 889 00 |
| | | | 300 | | | | | 300 | 1500 | 180 | 100 | 20 | 2,402 00 |
| | | | 1500 | | | | | 100 | 500 | 1020 | 300 | 10 | 7,198 00 |
| | | | 1500 | | | | | 50 | 250 | 1100 | 400 | 100 | 7,590 00 |
| | | | 1000 | | | | | 100 | 500 | 650 | 300 | 10 | 5,850 00 |
| 143 | | | 23650 | | | 925 | 42 | 1055 | 5275 | 15749 | 5355 | 1242 | 124,273 10 |

RETURN showing the Number and Value of Vessels, Boats,

ISLAND OF ANTICOSTI

| NAME OF DISTRICT. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | Salmon, barrels. | Salmon, fresh, lbs. |
|-------------------------|---|----------|--------|------|---------|--------|-------------------|--------|----------|--------|------------|--------|------------------|---------------------|
| | Vessels. | | | | Boats. | | Nets. | | Seines. | | Trap-Nets. | | | |
| | Number. | Tonnage. | Value. | Men. | Number. | Value. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. | | |
| | | | | | | | | | | | | | | |
| % | % | | | | | % | % | | % | | % | | | |
| Fox Bay..... | | | | | 15 | 850 | 33 | 800 | 400 | 100 | 100 | | | 2 |
| Salmon Bay .. | | | | | 15 | 600 | 25 | 600 | 350 | | | | | 10 |
| Mauzerolle .. | | | | | 10 | 500 | 14 | 400 | 200 | | | | | |
| Potato River | | | | | 2 | 60 | 2 | 40 | 40 | | | | | 3 |
| Wreck Cove .. | | | | | 4 | 110 | 5 | 40 | 40 | | | | | |
| Capelin Bay .. | | | | | 6 | 180 | 6 | 120 | 100 | | | | | 2 |
| Macdonald's Cove. | | | | | 20 | 600 | 28 | 200 | 200 | 120 | 100 | | | 3 |
| Raven's Head .. | | | | | 4 | 100 | 5 | 100 | 75 | | | | | |
| Oil River..... | | | | | 2 | 50 | 2 | 75 | 50 | | | | | 2 |
| English Bay .. | | | | | 24 | 720 | 26 | 750 | 500 | 100 | 50 | | | |
| Strawberry Cove. | | | | | 20 | 400 | 32 | 500 | 300 | | | | | |
| Ellis Bay..... | | | | | 1 | 20 | 1 | 100 | 50 | | | | | |
| Becsie River .. | | | | | 1 | 20 | 1 | 75 | 50 | | | | | 2 |
| Jupiter River .. | | | | | 2 | 75 | 2 | 300 | 300 | | | | | 12 |
| Shallop Creek .. | | | | | 3 | 100 | 2 | 300 | 300 | | | | | 10 |
| Dauphine River.. | | | | | 1 | 20 | 1 | 100 | 75 | | | | | 8 |
| Totals..... | | | | | 130 | 4405 | 185 | 4500 | 3030 | 320 | 250 | | | 54 |

RECAPITULATION FOR THE

| SUB-DIVISIONS. | | | | | | | | | | | | | | | |
|------------------|----|-----|-------|-----|------|-------|------|-------|-------|-------|-------|----|------|-------|--------|
| Godbout..... | 5 | 90 | 2500 | 11 | 102 | 2115 | 130 | 5200 | 2600 | 620 | 800 | 1 | 300 | 61465 | |
| Moisie | 5 | 143 | 2000 | 20 | 69 | 4649 | 158 | 10182 | 8840 | 1765 | 1542 | | | 6 | 153835 |
| Mingan | 22 | 550 | 17600 | 132 | 428 | 17115 | 820 | 5470 | 4070 | 1580 | 3160 | 3 | 380 | 68 | 52000 |
| Natashquan .. | 6 | 124 | 2400 | 42 | 64 | 2910 | 132 | 7670 | 2610 | 244 | 390 | | | 164 | 50990 |
| Washecootai .. | 1 | 29 | 700 | 8 | 26 | 671 | 27 | 1035 | 980 | 228 | 133 | | | 36 | |
| St. Augustin .. | | | | | 126 | 4500 | 153 | 5628 | 4281 | 1930 | 1828 | 4 | 930 | 96 | |
| Bonne Esperance. | 1 | 40 | 1500 | 8 | 366 | 17540 | 621 | 10550 | 8650 | 7851 | 8530 | 9 | 1800 | 143 | |
| Anticosti | | | | | 130 | 4405 | 185 | 4500 | 3030 | 320 | 250 | | | 54 | |
| Totals | 40 | 976 | 26700 | 221 | 1311 | 53905 | 2226 | 50235 | 35061 | 14538 | 16633 | 17 | 3410 | 4194 | 318290 |

Nets, &c., in the County of Saguenay, &c.—Continued.

SUB-DIVISION.

| KINDS OF FISH. | | | | | | | | | FISH PRODUCTS. | | | | | | | Fish used for Local Consumption, brls. | VALUE. |
|----------------|---------------|-------------------|--------------------------|--------------------|-----------------|----------------|----------------------------------|-------------------------|-----------------|---------------------|--------------------|------------------------|-------------------|-----------------------------|----------------------------|--|-----------|
| Cod, cwt. | Halibut, lbs. | Herring, barrels. | Herrings, smoked, boxes. | Mackerel, barrels. | Trout, barrels. | Eels, barrels. | Cod Tongues and Sounds, barrels. | Lobsters, in cans, lbs. | Seal Skins, No. | Porpoise Skins, No. | Seal Oil, gallons. | Porpoise Oil, gallons. | Cod Oil, gallons. | Fish used as Bait, barrels. | Fish used as Manure, brls. | | |
| 250 | 1200 | 20 | | | | | | 40800 | 15 | | 45 | | 175 | 250 | 10 | 35 | 6,751 00 |
| 60 | | 10 | | | | | | 19200 | 120 | | 360 | | 40 | 200 | 10 | 10 | 3,369 00 |
| 300 | 900 | 25 | | | | | | | | | | | 190 | 40 | | 4 | 1,542 00 |
| 60 | 300 | 6 | | | | | | | | | | | 40 | 10 | | 3 | 385 00 |
| 120 | 300 | 10 | | | | | | | | | | | 75 | 15 | | 2 | 610 50 |
| 180 | 400 | 15 | | | | | | | | | | | 100 | 18 | | 6 | 943 00 |
| 720 | 1500 | 60 | | | | | | | | | | | 450 | 72 | | 20 | 3,686 00 |
| 120 | | 10 | | | | | | | | | | | 75 | 12 | | 6 | 592 00 |
| 50 | | | | | 2 | | | | | | | | 30 | 10 | | 3 | 291 00 |
| 250 | 2300 | 96 | | | | | | | 25 | | 75 | | 175 | 30 | 80 | 40 | 1,984 00 |
| 275 | 5400 | 108 | | | | | | | 30 | | 90 | | 180 | 30 | 50 | 54 | 2,496 00 |
| | | | | | 3 | 15 | | | 15 | | 45 | | | | | 3 | 162 00 |
| | | | | | 10 | | | | | | | | | | | 2 | 103 00 |
| | | | | | 5 | | | | | | | | | | | 3 | 292 00 |
| | | | | | | | | | | | | | | | | | 222 00 |
| | | | | | | | | | | | | | | | | | 128 00 |
| 2385 | 12300 | 360 | | | 20 | 15 | | 60000 | 205 | | 615 | | 1530 | 687 | 150 | 191 | 23,556 50 |

COUNTY OF SAGUENAY.

| | | | | | | | | | | | | | | | | | | | | | |
|-------|-------|------|-----|---|-----|----|----|-------|------|----|-------|-----|-------|-------|-----|------|--|--|--|--|------------|
| 4761 | 14200 | 469 | | 5 | 1 | | 2 | | 314 | 3 | 1570 | 200 | 2380 | 180 | | 160 | | | | | 37,637 00 |
| 3855 | 22841 | 479 | 315 | | 10 | | 27 | | 268 | 72 | 1023 | 545 | 2085 | 385 | 18 | 165 | | | | | 54,267 55 |
| 17600 | 2380 | 900 | | | | | | | 2155 | | 6520 | | 9120 | 2115 | | 1188 | | | | | 102,061 50 |
| 2135 | 4800 | 122 | | | 6 | | 6 | | 502 | | 2043 | 4 | 1600 | 590 | | 219 | | | | | 23,811 80 |
| 192 | | 15 | | | 5 | | | 4500 | 27 | | 61 | | 96 | 16 | | 26 | | | | | 2,211 80 |
| 6394 | | 75 | | | 34 | | | | 849 | | 2547 | | 4331 | 907 | | 267 | | | | | 33,780 70 |
| 23650 | | 1125 | | | 42 | | | | 1055 | | 5275 | | 15749 | 5355 | | 1242 | | | | | 124,273 10 |
| 2385 | 12300 | 360 | | | 20 | 15 | | 60000 | 205 | | 615 | | 1530 | 687 | 150 | 191 | | | | | 23,556 50 |
| 60972 | 56521 | 3545 | 315 | 5 | 118 | 15 | 35 | 64500 | 5375 | 75 | 19654 | 749 | 36891 | 10235 | 168 | 3458 | | | | | 401,599 95 |

RETURN showing the Number and Value of Vessels, Boats and Fishing Materials, the Number of Men employed, with the Kinds and Quantities of Fish, &c., in the Gulf Division, Province of Quebec, for the Year 1890.

TOTALS FOR THE GULF DIVISION.

| NAME OF COUNTRIES. | VESSELS AND BOATS EMPLOYED IN FISHING. | | | | | | FISHING MATERIAL. | | | | | | KINDS OF FISH. | | | | | |
|--------------------|--|--------|------|---------|---------|-------|-------------------|---------|----------|--------|------------|--------------|----------------|---------------------|-----------|---------------|--------|--|
| | Vessels. | | | Boats. | | | Nets. | | Seines. | | Trap-Nets. | Smelts, lbs. | Salmon, brls. | Salmon, fresh, lbs. | Cod, cwt. | Haddock, cwt. | | |
| | Number. | Value. | Men. | Number. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | Number. | | | | | | Value. | |
| Bonaventure | 6 | 280 | 28 | 911 | 20,964 | 1,119 | 43,388 | 25,530 | 3,940 | 2,725 | 10 | 250 | 94,795 | 9,455 | 1,298 | | | |
| Gaspé | 21 | 841 | 115 | 2,968 | 91,824 | 4,863 | 93,715 | 49,597 | 6,806 | 9,387 | 1 | 400 | 67,369 | 83,282 | | | | |
| Saguenay | 40 | 976 | 221 | 1,311 | 53,965 | 2,226 | 50,235 | 35,061 | 14,538 | 16,633 | 17 | 3,410 | 318,230 | 60,972 | | | | |
| Totals | 67 | 2,097 | 364 | 5,190 | 166,193 | 8,208 | 187,338 | 110,188 | 25,284 | 28,755 | 28 | 4,060 | 480,454 | 153,709 | 1,298 | | | |

| NAME OF COUNTRIES. | FISH PRODUCTS. | | | | | | | | | | | VALUE. | | | | | | | | |
|--------------------|----------------|----------------|-------------------------|-----------------|--------------|-------------|-------------------------------|-------------------------|-----------------------------|-----------------|---------------------|----------------------------------|----------------------|-------------------|-----------------|--------------------------|----------------------------|--------|-----------|----|
| | KINDS OF FISH. | | | | | | | | | | | Fish used for Local Consumption. | | cwt. | | | | | | |
| | Halibut, lbs. | Herring, brls. | Herring, smoked, boxes. | Mackere], brls. | Trout, brls. | Elas, brls. | Cod Tongues and Sounds, brls. | Lobsters, in cans, lbs. | Coarse and Mixed Fish, lbs. | Seal Skins, No. | Porpoise Skins, No. | Seal Oil, galls. | Porpoise Oil, galls. | Whale Oil, galls. | Cod Oil, galls. | Fish used as Bait, brls. | Fish used as Manure, brls. | | | |
| Bonaventure | 36,480 | 539 | 550 | 5,018 | 10 | 57 | 148 | 95,454 | 29 | 11,028 | 75 | 62,715 | 190 | 53,067 | 5,595 | 3,520 | 31,150 | 7,009 | 123,562 | 98 |
| Gaspé | 56,521 | 2,693 | 315 | 5 | 23 | 15 | 35 | 456,264 | ... | 5,375 | 75 | 19,654 | 749 | 36,801 | 53,067 | 26,737 | 4,618 | 8,418 | 649,786 | 93 |
| Saguenay | | 3,545 | | | 118 | 15 | 35 | 64,500 | ... | 5,375 | 75 | 19,654 | 749 | 36,801 | 53,067 | 26,737 | 168 | 3,458 | 401,569 | 95 |
| Totals | 92,001 | 6,777 | 865 | 5,023 | 153 | 72 | 183 | 616,218 | 29 | 17,003 | 75 | 82,369 | 904 | 95,553 | 95,553 | 49,492 | 35,936 | 18,883 | 1,174,948 | 96 |

RECAPITULATION.

STATEMENT of the Yield and Value of the Fisheries of the Gulf Division, Province of Quebec, for the Year 1890.

| Kinds of Fish and Oil. | Quantities. | Price. | | Value. | |
|------------------------------------|----------------|--------|------|-----------|------|
| | | \$ | cts. | \$ | cts. |
| Smelts, fresh. | Lbs. 100,745 | 0 | 05 | 5,037 | 25 |
| Salmon, salt. | Brls. 442½ | 16 | 00 | 7,080 | 00 |
| do fresh, in ice. | Lbs. 480,454 | 0 | 20 | 96,090 | 80 |
| Cod, salt, dry. | Cwt. 153,709 | 4 | 00 | 614,836 | 00 |
| Haddock, salt, dry. | " 1,298 | 4 | 00 | 5,192 | 00 |
| Halibut. | Lbs. 92,001 | 0 | 10 | 9,200 | 10 |
| Herring, salt. | Brls. 6,777 | 4 | 00 | 27,108 | 00 |
| do smoked. | Boxes. 865 | 0 | 25 | 216 | 25 |
| Mackerel, salt. | Brls. 5,023 | 15 | 00 | 75,345 | 00 |
| Trout, salt. | " 153 | 10 | 00 | 1,530 | 00 |
| Eels, salt. | " 72 | 10 | 00 | 720 | 00 |
| Cod tongues and sounds, salt. | " 183 | 10 | 00 | 1,830 | 00 |
| Lobsters, cans, one lb. | Lbs. 616,218 | 0 | 12 | 73,946 | 16 |
| Coarse and mixed fish. | Brls. 29 | 3 | 00 | 87 | 00 |
| Seal skins. | Pieces. 17,003 | 1 | 00 | 17,003 | 00 |
| Porpoise skins. | " 75 | 5 | 00 | 375 | 00 |
| Seal oil. | Galls. 82,369 | 0 | 40 | 32,947 | 60 |
| Porpoise oil. | " 904 | 0 | 40 | 361 | 60 |
| Whale oil. | " 190 | 0 | 40 | 76 | 00 |
| Cod oil. | " 95,553 | 0 | 40 | 38,221 | 20 |
| Fish for bait. | Brls. 49,492 | 1 | 50 | 74,238 | 00 |
| do manure. | " 35,936 | 0 | 50 | 17,968 | 00 |
| do local use. | " 18,885 | 4 | 00 | 75,540 | 00 |
| Total Value, 1890. | | | | 1,174,948 | 96 |
| do 1889. | | | | 1,442,616 | 05 |
| Decrease for 1890. | | | | 267,667 | 09 |

STATEMENT of Lobster Canneries in the Gulf Division, for the Season of 1890.
COUNTY OF BONAVENTURE.

| No. | Locality. | Number of Traps. | Value of Traps Boats, &c. | Value of Factory and Machinery. | Total Value. |
|-----|------------------------------|------------------------|------------------------------------|---|--------------|
| | | \$ | \$ | \$ | \$ |
| 2 | Bonaventure Subdivision..... | 1,600 | 1,500 | 900 | 2,400 |
| 3 | Port Daniel do | 2,100 | 1,600 | 2,500 | 4,100 |
| 5 | Totals | 3,700 | 3,100 | 3,400 | 6,500 |

COUNTY OF GASPÉ.

| | | | | | |
|----|------------------------------|--------|--------|--------|--------|
| 5 | Grand River Subdivision..... | 3,500 | 3,500 | 3,600 | 7,100 |
| 5 | Gaspé do | 3,000 | 3,000 | 3,600 | 6,600 |
| 15 | Magdalen Islands do | 25,000 | 25,000 | 15,000 | 40,000 |
| 25 | Totals | 31,500 | 31,500 | 22,200 | 53,700 |

COUNTY OF SAGUENAY.

| | | | | | |
|---|-------------------------------|-------|-------|-------|-------|
| 1 | Washeecootai Subdivision..... | 400 | 400 | 400 | 800 |
| 2 | Anticosti do | 3,000 | 3,200 | 2,000 | 5,200 |
| 3 | Totals | 3,400 | 3,600 | 2,400 | 6,000 |

TOTAL OF LOBSTER CANNERIES IN GULF DIVISION.

| | | | | | |
|----|--------------------------|--------|--------|--------|--------|
| 5 | County Bonaventure | 3,700 | 3,100 | 3,400 | 6,500 |
| 25 | do Gaspé | 31,500 | 31,500 | 22,200 | 53,700 |
| 3 | do Saguenay | 3,400 | 3,600 | 2,400 | 6,000 |
| 33 | Totals | 38,600 | 38,200 | 28,000 | 66,200 |

**STATEMENT of the Value of Material Employed in Fisheries in the Gulf Division,
Season of 1890.**

| Description. | Value. |
|--|----------------|
| | 8 |
| Vessels, 67, of 2,097 tons | 61,100 |
| Boats and flats, 5,190 | 166,193 |
| Nets, 187,338 fathoms | 110,188 |
| Seines, 25,284 do | 28,755 |
| Trap nets and bag nets, 28 | 4,060 |
| 33 lobster factories and plant, 38,600 traps | 66,200 |
| Total | 436,496 |

STATEMENT of Men Employed in Fisheries of the Gulf Division, Season of 1890.

| Description. | Number. |
|------------------------------|--------------|
| Sailors | 364 |
| Fishermen and shoremen | 8,208 |
| Total | 8,572 |

**SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE
OF QUEBEC, EXCLUSIVE OF THE GULF DIVISION,
FOR THE YEAR 1890.**

SOUTH SHORE, RIVER ST. LAWRENCE, FROM CAPE CHATTE TO POINT LÉVIS.

Overseer J. Joncas has charge of the south side of the St. Lawrence, from Cape Chatte to River Blanche, including Matane River. He reports a further decline in the yield of salmon, the catch having only amounted to 2,970 lbs. this season, or 15 per cent. less than last year. This is chiefly attributed to the water in Matane River, which, for the past two seasons, kept so low that salmon could not go up the fishway. Mr. Joncas thinks that the fishway is not properly located, and that this is why it fails to give the satisfactory results expected from it. Only 154 porpoises were killed, against 400 in 1889. The laws relative to sawdust and mill rubbish were strictly enforced in this division, and several fines were imposed upon the mill-owners. The total value of the fisheries in this district is reckoned at \$7,035.

Overseer L. S. E. Grondin, whose division extends from Rivière Blanche to Rimouski, reports an increase in the catch of herring but a falling off in that of salmon. This was caused by the strong gales which prevailed during the first part of the fishing season. Some fishermen, who were in the habit of catching from thirty to forty salmon, only caught a couple this season. The total value of the fisheries of this division amounts to \$36,000.

Overseer H. Martin has charge of that part of the coast extending from Rimouski wharf to Pointe à la Loupe, including Rimouski River. He reports a shortage in the catch of salmon, owing to the destruction of a large number of nets by storms, and which were not repaired. The South-West Bic River is reported to be very much neglected by its lessee, especially at spawning time. Shad has almost disappeared from this coast, and no apparent reason can be ascribed for it. Herring and sardines were abundant. The fishery regulations were generally well observed. No nets were allowed at the Government wharf, and the brush weirs at Barnaby Island were kept in proper check, so as to give due protection to the breeding fish in Rimouski River. The total value of the fisheries of this division is given at \$15,000.

Overseer Napoléon Levesque reports a falling off in the salmon and shad fisheries on that part of the River St. Lawrence fronting on the County of Temiscouata, but an improvement in all other yields of fish. The enormous catch of over 12,000 brls. of small and coarse fish swells the value of the fisheries in this division to \$56,000. Forty-two seals and twenty porpoises were killed opposite Green Island and Cacouna. The five fish-ways built in this division are said to be in good order.

Overseer Xavier Pelletier, who has charge of the fisheries fronting the County of Kamouraska, reports a falling off in the yield of nearly every kind of fish, but most particularly in that of shad, which hardly amounts to 6,000 lbs.; while the catch of 1889 was more than double that quantity, although it was considered a poor season. One hundred and forty-one porpoises were killed in the fisheries of River Ouelle and St. Anne. The total yield of the fisheries of this district amounts to \$20,000.

Overseer Eugene Pelletier's division extends from St. Anne to Lévis. He writes to say, that with the exception of shad, which failed in his district, as well as everywhere else on the south shore, fishing was satisfactory. The absence of shad was compensated for by a bigger catch of eels and whitefish. Seining for smelts is now almost entirely stamped out; but this Overseer complains of another evil, the destruction of millions of young and immature fish, which are yearly killed in the brush weirs. He is of opinion that were parties offering young fish for sale at ridiculously low prices made liable to fines, it would greatly aid the saving of fish life, and benefit both fishermen and consumers. The total value of the fisheries of this division exceeds \$30,000, being an increase of 50 per cent. over that of last year.

NORTH SHORE RIVER ST. LAWRENCE, FROM QUEBEC TO BERSIMIS.

QUEBEC AND MONTMORENCY DIVISION.

Overseer L. P. Huot's division comprises the shores of the Island of Orleans, and that part of the north coast of the River St. Lawrence extending from St. Joachim to Chateau-Richer. As anticipated by this officer, nets which have been too close to one another have begun to thin out. Seventeen stands and eight brush weirs were abandoned last season, fishermen seeking other employment. This accounts, to a certain extent, for the apparent falling off in the fisheries of this division, which can only be ascribed to a less vigorous prosecution of this pursuit. The overseer states that, with the exception of shad, which was a total failure, the other kinds of fish were as abundant as usual, a decided improvement being especially noticeable in the yield of salmon. The total catch of this division, valued at \$16,392, is disposed of in Quebec markets.

Overseer U. Bhreur has charge of that portion of the north shore of the River Lawrence extending from Rivière du Gouffre to Rivière aux Canards, including Isle aux Coudres. The yield of salmon shows a slight improvement, especially at Malbaie and St. Fidèle. There were only 31 porpoises killed in the fisheries of Isle aux Coudres, against 146 in 1889. The total value of the fisheries of this division amounts to nearly \$23,000, including the estimated yield of the inland waters of the County of Charlevoix.

Overseer L. N. Catellier, who attends to the Saguenay Division, from Rivière aux Canards to Bersimis, states that although the catch of salmon in 1889 was considered a good one, that of last season exceeds it by 60 per cent. Carelessness on the part of some fishermen to properly secure their nets resulted in heavy loss instead of large catches. It now seems an established fact that the best hauls were made during the prevalence of strong north-easterly gales. There were 980 salmon caught in five weeks in the Department's net at Point Rouge, 325 of which were kept for the hatchery, and the remainder liberated alive. The several fishing guardians and anglers agree in stating that the rivers are well stocked with breeding fish. Never before were they noticed in such large numbers in St. Margaret River. The fishway on Rivière à Mars needs repairs. This will be attended to as soon as navigation opens. The total value of the fisheries of this division is estimated at \$21,286.

FROM QUEBEC TO UPPER OTTAWA.

SHERBROOKE AND MEGANTIC DIVISIONS.

Overseer P. W. Nagle attends to the inland waters of the County of Stanstead. He reports a slight falling off in the catch of his division, as compared with the yield of the previous year. The staple fish is trout, of which 12,000 lbs. are returned, the whole being used for local consumption. No violations of the law came to this Overseer's notice, the close seasons being well observed. The fishways were kept in good repair, and no obstructions at present prevent the gravid fish from reaching their spawning grounds.

Overseer Joel Shurtleff, who has charge of the waters of the County of Compton, also reports a decrease in the fisheries of his district, which he ascribes to the fact that sawdust is still allowed to drift into the streams and to pollute them. There was less poaching last season than formerly.

Overseer L. A. Darche, whose division comprises the waters of the counties of Wolfe and Richmond, reports the yield as being equal to that of 1889. The principal kinds of fish caught are trout and bass, of which over 16,000 lbs. of each were caught, besides 18,000 lbs. of pickerel. The sawdust nuisance is loudly complained of. The four fish-ways in this division were kept in efficient order during the season.

Overseer J. B. McDonald, who has charge of Lake Megantic, writes that trout fishing was not so good as last year, but that bass fishing was better. No further trouble is experienced regarding sawdust in this division, the several mill-owners having provided their mills with the necessary furnaces to immediately consume the sawdust and rubbish. It would be advisable that the close season for lunge or lake trout be not later than the 15th September, as by the 1st October, when the present close season begins, these fish have mostly done spawning in Lake Megantic.

MAGOG AND BROME DIVISION.

Overseer N. A. Beach, who attends to the whole Lake Memphremagog, writes that fish are increasing, especially bass and whitefish. For want of sufficient assistance, some trout fishing occurred during the close season, which this officer was unable to prevent. He suggests that parties going upon the spawning beds at night with lights be liable to fine.

Overseer W. G. Greene, who replaced T. Marchessault, resigned, is charged with the guardianship of Brome Lake. He reports black bass, whitefish and pickerel as the principal kinds of fish frequenting this lake. Whitefish are caught through the ice. Bass fishing was good, especially during the month of September.

MISSISQUOI BAY DIVISION.

Overseer P. E. Luke reports an increase in the catch of every kind of fish at Missisquoi Bay. No violation of the law came to his notice, and the various close seasons were well observed. Only one fish-way was kept open in the lower dam on Pike River. The mill on the other dam has changed owners, and a fish-way will be built there next summer, as well as on two other dams further above. The value of the fisheries of this division is given at about \$5,000. Most of the fish are shipped fresh to the States.

IBERVILLE DIVISION.

Overseer J. B. Chevalier's division includes the Richelieu River, from Lake Champlain to St. John's. He reports a slight decline in the yield of bass and pickerel, due to high water in the river during the season. Fishing with night lines was good. The catch of eels amounted 41,540 lbs. These are the staple fish of this district, and are mostly all exported to the United States. The total value of the fisheries of this division exceeds \$5,000.

Overseer J. O. Dion has charge of the lower portion of the Richelieu River, down to Sorel. He reports no improvement in the condition of the fisheries of this division, and states that he cannot hope for any, so long as the fish-pass at St. Ours

is not properly arranged. He is under the impression that the ashes thrown over-board by steamers, as well as the chemicals escaping from manufactures, contribute to the destruction of fish life by polluting the water.

CHATEAUGUAY DIVISION.

Overseer J. Laberge, who attends to this division, reports a slight decrease in the yield of nearly every kind of fish, excepting maskinongé. The returns give 75,000 lbs. of sturgeon, 50,000 lbs. pike, 30,000 lbs. eels, over 40,000 lbs. of bass and pickerel, valued in all at \$19,500. Mr. Laberge again urges the prohibition of fishing of any kind during the spring close season, from 15th April to 15th June. The proximity of the Montreal markets is of great convenience and value to the fishermen of these districts, being easy of access, and enabling the men to get remunerative prices for their fish.

BEAUHARNOIS DIVISION.

Overseer John Kelly's division comprises that part of Lake St. Francis fronting on the counties of Beauharnois and Huntingdon. He reports a falling off in the catch of bass, pickerel and maskinongé occasioned by excessive seining in the spring time, when such practices are apt to destroy young fish, and recommends the total prohibition of seines and gill-nets for a term of years, in order to allow all kinds of fish a chance to recover their former abundance. The enforcement of the law regarding sawdust has already produced beneficial effects in the Chateauguay River, and given great satisfaction to settlers on the banks. The total value of the fisheries of this division is estimated at \$11,000, being a decrease of 25 per cent. as compared with 1889.

LAPRAIRIE AND VERCHÈRES DIVISION.

Overseer John Morris has charge of the above divisions, which comprise the south side of the River St. Lawrence fronting on the counties of Laprairie, Chambly and Verchères. Shad fishing was a complete failure. Eels appear to be the staple fish of this division; but although the returns show a yield of 400,000 lbs., there is still a shortage as compared with last year's catch. Bass were plentiful before the close season began, but after it was over, only a few were taken. Pickerel were not so abundant as last year. The fishery laws were generally well observed, and few violations occurred. The total value of the fisheries of this division exceeds \$40,000.

THREE RIVERS DIVISION.

Overseer Joseph Lambert, of Three Rivers, whose division comprises that part of the River St. Lawrence fronting on the County of St. Maurice, reports a falling off in shad and sturgeon, but an increase in eels, pike and tom-cods. The yield of the latter fish is given at 50,000 bushels, being an increase of 65 per cent. over 1889. This item makes up for shortages in other kinds of fish, and brings up the total value of this division to \$51,560.

BERTHIER AND MASKINONGÉ DIVISION.

Overseer S. A. Grant has charge of that part of the River St. Lawrence fronting on the counties of Maskinongé and Berthier. He reports the season's operation as having been quite unsatisfactory. He issued 62 licenses, but the value of the whole catch hardly exceeds \$3,000, a decline of over 40 per cent.

TERREBONNE DIVISION.

Overseer Joseph Lauzon, who attends to the Rivers Jesus and des Prairies, reports an improvement in the general yield of the fisheries of his division, with the exception of shad, which failed there, as everywhere else. No violation of the law came to his knowledge. Few strangers were noticed last season in this district.

Overseers Cloutier and Filiatrault, who have charge of the inland waters of the County of Terrebonne, return a larger quantity of trout than in 1889. The former

officer complains of sawdust being thrown in the streams. The total value of fish caught in this division is set down at \$6,581, nearly all used for local consumption.

LOWER OTTAWA DIVISION.

Overseer R. W. Jones, who looks after the north side of the Ottawa River, from Oka to Carillon, reports a general decrease in the yield of last season. This, he says, is due to a less vigorous prosecution of the fishery, and to the smaller number of fishermen than formerly, most people finding remunerative employment on the Vaudreuil and Ottawa Railway, now building. Sixteen nets were seized for Sunday fishing. Mill-owners on the North River attempted to construct fish-ways, but the water kept so high that it was impossible to go on with the work. The total value of the fisheries of this division is given at \$4,560.

UPPER OTTAWA DIVISION.

Overseer Joseph Marion, who has charge of the fisheries of the County of Ottawa, reports as follows:—The statistics of fisheries show that the catch was not quite as good as last year's, and the general complaint is that the quality of the fish is gradually declining. There is only one voice among fishermen, to attribute this result to sawdust and mill rubbish, which, after filling up the bays of the Ottawa and covering the spawning beds, is slowly but surely encroaching upon the navigable channels of the river. It is unnecessary to repeat here what I have said on this subject in my report of last year. So long as the mills on the Ottawa and its tributaries are permitted to throw all their refuse into the water, we cannot look to any improvement in the fisheries of this noble stream. The Government dam at Carillon is a great source of complaint, as it effectually bars the ascent of fish, and prevents the fishermen of this division from taking a share in the rich harvest which those below it are now reaping. I hope it may be possible for the Department of Public Works, some day or another, to devise a scheme by which fish will be able to surmount this obstacle, and add to the wealth of the Upper Ottawa. There were 15 men fishing this season for the local markets between Ottawa and Carillon. The catch consisted of pike, carp, catfish, mudpouts, &c. About 12 men have also been fishing on Thirty-one-mile and Pémichogan Lakes, between the Gatineau and Lièvre rivers. They were employed for about three months, and their average catch was from 20 to 25 bls. of large grey trout, pike and bass, every day. Most of the lakes in the County of Ottawa are now leased to clubs and to private parties by the Government of the Province of Quebec. Among these are Lake St. Germain, in Wakefield; the Plomb Lakes, in Denholm; Echo Beach Lakes, in Villeneuve; Graham's and other lakes in Mulgrave; Lake Bernard and Long Lake in Masham, &c. All these lakes abound in speckled trout, and some of them, as Lakes Bernard, Long and Mahon's Lakes, are famed for black bass. The owners of these lakes have erected club houses, and keep a regular staff of private guardians to prevent poaching and protect their waters. From all that I can hear, the law is strictly observed, and the fish, being fully protected, are on the increase everywhere.

Warden Joynt, who has charge of Lake Bernard, as well as of other lakes in Masham, Aldfield and Onslow, states that the fishing was good, and that netting, spearing and other violations of the law are no longer heard of. No other fishing but angling with hook-and-line or with the fly being allowed, it is somewhat difficult to give correct figures; but Mr. Joynt, estimates that there were caught in Lake Bernard during the past season about 3,000 lbs. of bass, 1,000 lbs. of trout and 2,000 lbs. of other fish; in Long Lake, 2,200 lbs. of bass, 1,000 lbs. of trout, and 700 lbs. of other fish; in Mahon's Lake, 1,700 lbs. of bass, 700 lbs. of trout, and 1,200 lbs. of other fish; in Sinclair's Lake, 3,000 lbs. of trout and 2,200 lbs. of other fish; in Wilson's Lake, about the same as in Lake Sinclair; Wolf Lake, 1,500 lbs. of trout and 700 lbs. of other fish. There are two or three other small lakes where the average catch was about 2,000 lbs. of fish.

Net fishing is prohibited on Lac des Chênes. From all the information I can get, the catch was fully equal to that of last year, and no poaching or illegal fishing was reported.

STATISTICS OF FISHERIES IN THE PROVINCE OF QUEBEC

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number
the River St. Lawrence from Cape Chatte

| Numbers. | NAMES OF PLACES. | FISHING BOATS. | | Number of Fishermen. | KINDS OF NETS USED. | | | | | | | |
|-------------|---|-------------------|--------|----------------------|---------------------|----------|--------|------------------|--------|----------------|--------|----|
| | | Number. | Value. | | Gill Nets. | | | Brush Fisheries. | | Eel Fisheries. | | |
| | | | | | Number. | Fathoms. | Value. | Number. | Value. | Number. | Value. | |
| | | | \$ | | | \$ | | \$ | | \$ | | \$ |
| 1 | From Capucins to Matane..... | 70 | 1400 | 150 | 80 | 1885 | 2000 | 20 | 500 | 1 | 10 | |
| 2 | Boules and Rivière Blanche..... | | | 8 | | | | 8 | 160 | | | |
| 3 | Métis..... | | | 7 | | | | 7 | 140 | | | |
| 4 | Ste. Flavie..... | | | 3 | | | | 3 | 60 | | | |
| 5 | Ste. Luce..... | | | 15 | 2 | 30 | 40 | 15 | 300 | | | |
| 6 | Pointe au Père..... | | | 11 | | | | 11 | 220 | | | |
| 7 | Rimouski..... | | | 3 | | | | 3 | 60 | | | |
| 8 | Islet à Canuel..... | 15 | 211 | 32 | 2 | 50 | 20 | 11 | 445 | 3 | 30 | |
| 9 | Rivière Hâtée..... | 10 | 120 | 28 | | | | 14 | 520 | | | |
| 10 | Bic to Bay Ha! Ha!..... | 9 | 90 | 20 | 1 | 250 | 70 | 9 | 275 | | | |
| 11 | St. Simon and St. Fabien, and in- land waters..... | 5 | 75 | 15 | 1 | 130 | 45 | 8 | 175 | 10 | 80 | |
| 12 | Inland waters, Co. Temiscouata, including Touladi River..... | | | | | | | | | | | |
| 13 | Ile aux Pommes..... | 2 | 150 | 3 | | | | 1 | 100 | | | |
| 14 | Trois Pistoles..... | 1 | 125 | 13 | | | | 9 | 1000 | | | |
| 15 | Isle Verte..... | 17 | 2150 | 43 | | | | 21 | 2100 | | | |
| 16 | do (main land)..... | 5 | 700 | 12 | | | | 6 | 600 | 6 | 24 | |
| 17 | Cacouna..... | | | 18 | | | | 10 | 2000 | 5 | 100 | |
| 18 | River du Loup..... | | | 7 | 17 | 400 | 410 | 4 | 400 | 4 | 80 | |
| 19 | Notre Dame du Portage..... | | | 12 | | | | 5 | 250 | 10 | 250 | |
| 20 | St. André..... | | | 12 | | | | 6 | 930 | 12 | 171 | |
| 21 | Kamouraska..... | | | 7 | | | | 5 | 405 | 3 | 170 | |
| 22 | St. Denis..... | | | 13 | 37 | 928 | 463 | 4 | 180 | 16 | 375 | |
| 23 | Rivière Ouelle..... | | | 29 | 54 | 1745 | 832 | +1 | 90 | 40 | 770 | |
| 24 | Ste. Anne de la Pocatière..... | | | 17 | | | | +1 | 100 | 19 | 700 | |
| 25 | Inland waters, County L'Islet..... | | | | | | | | | | | |
| 26 | St. Roch..... | | | 36 | | | | | | 36 | 1820 | |
| 27 | St. Jean..... | | | 46 | | | | | | 46 | 2160 | |
| 28 | L'Islet..... | | | 30 | | | | | | 30 | 2000 | |
| 29 | Ile aux Grues..... | | | 23 | | | | | | 23 | 4900 | |
| 30 | Cap St. Ignace..... | | | 14 | | | | 4 | 270 | 10 | 500 | |
| 31 | St. Thomas..... | 1 | 15 | 35 | | | | 35 | 1500 | | | |
| 32 | Berthier..... | 4 | 48 | 26 | | | | 3 | 1800 | 23 | 425 | |
| 33 | St. Valier..... | 3 | 120 | 2 | | | | 2 | 2900 | | | |
| 34 | St. Michel..... | 5 | 180 | 5 | | | | 5 | 2800 | | | |
| 35 | Beaumont..... | 9 | 270 | 4 | | | | 4 | 2100 | | | |
| 36 | Pointe Lévis..... | 10 | 400 | 6 | | | | 5 | 3000 | | | |
| Totals..... | | 166 | 6054 | 705 | 194 | 5388 | 3880 | 240 | 25380 | 297 | 14565 | |

+ Porpoise fishery.

EXCLUSIVE OF THE GULF OF ST. LAWRENCE.

of Men, together with the Yield, Value and Kinds of Fish, &c., on the South Shore of
to Point Lévis, during the Year 1890.

| KINDS OF FISH. | | | | | | | | | | | FISH PRODUCT. | | VALUE. | Numbers. |
|----------------|-------------|-----------|-------------------|------------|----------------|--------------------|-----------------|----------------|---------------------------------|---------------------------|---------------------|----------------------|-------------|----------|
| Salmon, lbs. | Trout, lbs. | Shad, lbs | Herring, barrels. | Eels, lbs. | Sturgeon, lbs. | Sardines, barrels. | Whitefish, lbs. | Pickeral, lbs. | Coarse and Small Fish, barrels. | Fish for Manure, barrels. | Porpoise Skins, No. | Porpoise Oil, galls. | | |
| 2070 | 3800 | | 275 | 400 | | 100 | | | 25 | 500 | 154 | 9240 | \$ 7,035 00 | 1 |
| 70 | | | 100 | | | 10 | | | | 200 | | | 544 00 | 2 |
| 750 | | | 1950 | | | 450 | | | | 400 | | | 9,500 00 | 3 |
| 75 | | | 75 | | | 20 | | | 14 | 200 | | | 517 00 | 4 |
| 1875 | | | 2475 | | | 450 | | | | 300 | | | 11,775 00 | 5 |
| 1680 | | | 2140 | | | 150 | | | | 1000 | | | 9,846 00 | 6 |
| 300 | | | 900 | | | 75 | | | | 600 | | | 4,185 00 | 7 |
| 1270 | | 580 | 1005 | 5200 | 100 | 80 | | | 22 | 1000 | | | 5,432 80 | 8 |
| 1000 | | 400 | 800 | | | 140 | | | 15 | 1500 | | | 4,639 00 | 9 |
| 1500 | | 500 | 300 | | | 75 | | | 15 | 600 | | | 2,100 00 | 10 |
| 2000 | 13000 | 400 | 100 | 6000 | | 30 | | | 8 | 300 | | | 2,763 00 | 11 |
| | 13500 | | | | | | | | | | | | 1,350 00 | 12 |
| | | 100 | 12 | | | 15 | | | 2000 | 10 | | | 6,104 00 | 13 |
| 825 | | 200 | 405 | | 200 | 170 | | | 1200 | 52 | | | 5,945 00 | 14 |
| 1700 | | 1900 | 910 | | 400 | 675 | | | 5000 | 300 | *18 | 1080 | 22,007 00 | 15 |
| 425 | | 200 | 422 | 3000 | 6000 | 320 | | | 1000 | 110 | | | 6,340 00 | 16 |
| 1400 | | 120 | 475 | 500 | 1420 | 702 | | | 1800 | 100 | 4 | 240 | 9,970 40 | 17 |
| 1800 | | | 300 | 400 | 2000 | 200 | | | 1000 | 150 | | | 5,379 00 | 18 |
| 50 | | | 10 | 2800 | 200 | 10 | | | 100 | 150 | | | 635 00 | 19 |
| | | | 24 | 2350 | 2000 | 1050 | | | | 430 | | | 3,722 00 | 20 |
| 400 | | 2200 | 50 | 1710 | 2800 | 575 | | | | 873 | | | 2,844 10 | 21 |
| 1000 | | 4200 | 2 | 15850 | 950 | 862 | | | | 100 | | | 4,104 00 | 22 |
| | | | | 47900 | | | | | | 30 | 51 | 3060 | 4,317 00 | 23 |
| | | | | 29200 | 2500 | | | | | 115 | 90 | 5400 | 4,419 50 | 24 |
| | 5000 | | | | | | | | | | | | 500 00 | 25 |
| | | | | 23400 | | | | | 200 | | 1 | 60 | 2,032 00 | 26 |
| | | | | 52400 | | | | | 190 | | | | 3,714 00 | 27 |
| | | | | 39200 | | | | | 136 | | | | 2,760 00 | 28 |
| | | | | 68200 | | | | | 92 | | | | 4,368 00 | 29 |
| | | | | 24000 | 3800 | | 5600 | | 90 | | | | 2,386 00 | 30 |
| 20 | | 100 | | 16700 | 18400 | | 19000 | 1550 | 105 | | | | 4,044 00 | 31 |
| 240 | | 1256 | | 22370 | 5900 | | 7000 | 550 | 17 | | | | 2,463 56 | 32 |
| 500 | | 1800 | | 21400 | 5400 | | 9500 | 500 | 16 | | | | 2,654 00 | 33 |
| 1020 | | 1910 | | 22600 | 2400 | | 4900 | 1500 | 24 | | | | 2,372 60 | 34 |
| 650 | | 5532 | | 7400 | 1800 | | 3000 | 1050 | 15 | | | | 1,361 92 | 35 |
| 1110 | | 5600 | | 14000 | 1500 | | 5000 | 1180 | 24 | | | | 2,030 80 | 36 |
| 24630 | 35300 | 26998 | 12730 | 425980 | 57770 | 6164 | 54000 | 6330 | 13108 | 9020 | 318 | 19080 | 166,160 68 | |

* 42 seals were killed in this division.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, together
St. Lawrence from Quebec to

| Number. | NAMES OF PLACES. | FISHING BOATS. | | Number of Fishermen. | KINDS OF NETS USED. | | | | | | | |
|--------------------------------|--|----------------|--------|----------------------|---------------------|----------|--------|------------------|--------|----------------|--------|--|
| | | Number. | Value. | | Gill Nets. | | | Brush Fisheries. | | Eel Fisheries. | | |
| | | | | | Number. | Fathoms. | Value. | Number. | Value. | Number. | Value. | |
| <i>Island of Orleans.</i> | | | | | | | | | | | | |
| 1 | St. Laurent | | | 6 | 6 | 2100 | 1520 | | | | | |
| 2 | St. Jean | | | 7 | 6 | 1190 | 785 | | | 1 | 50 | |
| 3 | St. François (south side of Island) | | | 16 | 2 | 600 | 600 | | | 14 | 890 | |
| 4 | Argenteau | | | 9 | 1 | 200 | 150 | | | 8 | 400 | |
| 5 | St. François (north side of Island) | | | 6 | | | | 5 | 140 | 1 | 40 | |
| 6 | Ste. Famille | | | 9 | | | | 9 | 215 | | | |
| 7 | St. Pierre | | | 5 | 5 | 1100 | 1000 | | | | | |
| <i>North Coast.</i> | | | | | | | | | | | | |
| 8 | Isles Madame and aux Réaux | | | 4 | 3 | 600 | 360 | | | 1 | 100 | |
| 9 | St. Joachim | | | 23 | | | | 1 | 200 | 22 | 1950 | |
| 10 | Ste. Anne | | | 5 | | | | 1 | 20 | 4 | 70 | |
| 11 | Chateau Richer | | | 6 | 2 | 550 | 800 | 4 | 82 | | | |
| 12 | Bay St. Paul and neighbouring lakes in the Co. of Charlevoix | | | 55 | | | | | | 35 | 860 | |
| 13 | Ile aux Coudres | | | 75 | | | | 50 | 200 | 70 | 350 | |
| 14 | St. Irénée | | | 28 | | | | 23 | 150 | 5 | 30 | |
| 15 | Les Eboulements | | | 65 | | | | 40 | 200 | 60 | 220 | |
| 16 | Malbaie | | | 18 | 2 | 340 | 22 | 16 | 80 | | | |
| 17 | St. Fidèle | | | 12 | 1 | 180 | 11 | 10 | 40 | 2 | 10 | |
| 18 | St. Siméon | | | 8 | 2 | 300 | 20 | 6 | 30 | | | |
| <i>Saguenay Division.</i> | | | | | | | | | | | | |
| 19 | Rivière aux Canards | 3 | 30 | 3 | | | | 3 | 60 | | | |
| 20 | Anse Ste. Catherine | 3 | 45 | 3 | | | | 3 | 60 | | | |
| 21 | Tadoussac | 3 | 45 | 3 | 1 | 20 | 20 | 1 | 20 | | | |
| 22 | Pointe Rouge | 2 | 50 | 4 | 2 | 150 | 150 | | | | | |
| 23 | Moulin Baude | 1 | 10 | 1 | 1 | 80 | 80 | | | | | |
| 24 | Pointe à la Cariole | 1 | 15 | 1 | 1 | 80 | 60 | | | | | |
| 25 | Anse aux Pilotes | 2 | 30 | 2 | 2 | 130 | 100 | | | | | |
| 26 | Petites Bergeronnes (angling) | | | | | | | | | | | |
| 27 | Bon Désir | 2 | 25 | 2 | | | | 2 | 40 | | | |
| 28 | Escoumains | 6 | 60 | 6 | 3 | 230 | 115 | 3 | 60 | | | |
| 29 | Baie des Bacons | 1 | 10 | 1 | | | | 1 | 25 | | | |
| 30 | Sault au Mouton | 2 | 20 | 2 | | | | 2 | 45 | | | |
| 31 | Mille Vaches | 2 | 20 | 2 | | | | 2 | 55 | | | |
| 32 | Pointe Boisvert | 6 | 75 | 6 | 1 | 150 | 75 | 5 | 155 | | | |
| 33 | Portneuf | 4 | 40 | 4 | 2 | 212 | 106 | 2 | 35 | | | |
| 34 | Sault au Cochon | 1 | 20 | 1 | 1 | 140 | 70 | | | | | |
| 35 | Pointe Colombier | 4 | 122 | 4 | 4 | 260 | 130 | | | | | |
| 36 | Bersimis | 3 | 36 | 3 | | | | 3 | 75 | | | |
| 37 | Inland Waters | | | | | | | | | | | |
| <i>Lake St. John Division.</i> | | | | | | | | | | | | |
| 38 | St. Joseph d'Alma to Roberval | * | | 250 | 250 | 7500 | 1250 | | | | | |
| Totals | | 46 | 653 | 655 | 298 | 16112 | 7424 | 192 | 1987 | 223 | 4970 | |

* 100,000 lbs. winninish included in these estimates.

with the Yield, Value and Kinds of Fish, &c., on the North Shore of the River Bersimis, during the Year 1890.

| KINDS OF FISH. | | | | | | | | | | | | FISH PRODUCTS. | | VALU. | Number. |
|----------------|-------------|------------|-------------------|------------|----------------|--------------------|-----------------|----------------|------------|---------------------------------|---------------------------|---------------------|----------------------|-----------|---------|
| Salmon, lbs. | Trout, lbs. | Shad, lbs. | Herring, barrels. | Eels, lbs. | Sturgeon, lbs. | Sardines, barrels. | Whitefish, lbs. | Pickarel, lbs. | Pike, lbs. | Coarse and Small Fish, barrels. | Fish for Manure, barrels. | Porpoise Skins, No. | Porpoise Oil, galls. | | |
| | | | | | | | | | | | | | | \$ | cts. |
| 1008 | | 1090 | | 10000 | | | 5280 | 1740 | | | | | | 1,393 80 | 1 |
| 904 | | 1410 | | 12700 | | | 8280 | 2820 | | | | | | 1,859 00 | 2 |
| 240 | | 220 | | 18350 | | | 3840 | 1200 | | | | | | 1,541 40 | 3 |
| 80 | | 200 | | 11200 | | | 1200 | 360 | | | | | | 817 60 | 4 |
| | | | | 2150 | | | 2160 | 792 | | 24 | | | | 421 32 | 5 |
| | | | | 946 | 4400 | | 4848 | 1800 | | 57 | | | | 987 60 | 6 |
| 112 | | 100 | | 6600 | 400 | | 9600 | 1980 | | | | | | 1,335 20 | 7 |
| | | | | | | | | | | | | | | | |
| 544 | | 1250 | | 7200 | 5800 | | 6240 | 1440 | | | | | | 1,549 40 | 8 |
| | | | | 45710 | | | 720 | 240 | | | | | | 2,814 60 | 9 |
| 48 | | 30 | | 2620 | | | 600 | 300 | | 1 | | | | 226 20 | 10 |
| | | | | 5730 | 4200 | | 25100 | 10100 | | 75 | | | | 3,446 20 | 11 |
| | 87400 | | | 67000 | | | | | | | | | | 12,760 00 | 12 |
| | | | 10 | 4000 | | 40 | | | | | 300 | 20 | 120 | 678 00 | 13 |
| 60 | | | 40 | 100 | | 100 | | | | | 5000 | | | 2,978 00 | 14 |
| 50 | | | | 3400 | | 150 | | | | | 4000 | | | 2,664 00 | 15 |
| 700 | | | 50 | 160 | | 100 | | | | | 3000 | | | 2,149 60 | 16 |
| 500 | | | 40 | 170 | | 50 | | | | | 600 | | | 720 20 | 17 |
| 460 | | | 26 | | | 30 | | | | | 400 | 11 | 660 | 794 00 | 18 |
| | | | | | | | | | | | | | | | |
| 900 | | | 10 | | | | | | | 3 | 60 | | | 259 00 | 19 |
| 2250 | 500 | | 15 | | | | | | | 3 | 150 | | | 644 00 | 20 |
| | 2000 | | 25 | | | | | | | | 800 | 125 | 7500 | 4,200 00 | 21 |
| 17640 | | | | | | | | | | | | | | 3,528 00 | 22 |
| 7380 | | | | | | | | | | | | | | 1,476 00 | 23 |
| 6300 | | | | | | | | | | | | | | 1,260 00 | 24 |
| 5940 | | | | | | | | | | | | | | 1,188 00 | 25 |
| | 2000 | | | | | | | | | | | | | 200 00 | 26 |
| | | | 15 | | | | | | | 6 | 100 | | | 128 00 | 27 |
| 7074 | 200 | | 16 | | | | | | | 4 | 500 | | | 1,760 00 | 28 |
| 234 | 75 | | 12 | | | | | | | 5 | 150 | | | 192 30 | 29 |
| 288 | | | 6 | | | | | | | 1 | 50 | | | 109 60 | 30 |
| 234 | | | 50 | | | | | | | 10 | 400 | | | 476 80 | 31 |
| 3780 | | | 25 | | | | | | | 40 | 300 | | | 1,126 00 | 32 |
| 2268 | 300 | | 15 | | | | | | | 3 | 100 | | | 602 60 | 33 |
| 3348 | | | | | | | | | | | | | | 669 60 | 34 |
| 3060 | | | | | | | | | | | | | | 612 00 | 35 |
| 270 | 200 | | 30 | | | | | | | 20 | 200 | | | 354 00 | 36 |
| | 25000 | | | | | | | | | | | | | 2,500 00 | 37 |
| | | | | | | | | | | | | | | | |
| ..... | 11000 | | | | | | 20000 | 50000 | 25000 | 550 | | | * | 14,600 00 | 38 |
| 65672 | 128675 | 4300 | 385 | 198036 | 14800 | 470 | 87868 | 72772 | 25000 | 802 | 16110 | 156 | 8280 | 75,022 82 | |

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets,
extending from Quebec to Upper

| Numbers. | NAMES OF DIVISIONS. | FISHING BOATS. | | Number of Fishermen. | KINDS OF NETS USED. | | | | | | | | |
|----------|--|----------------|--------|----------------------|---------------------|----------|--------|----------|--------|------------------|--------|----------------|--------|
| | | Number. | Value. | | Gill Nets. | | | Seines. | | Brush Fisheries. | | Eel Fisheries. | |
| | | | | | Number. | Fathoms. | Value. | Fathoms. | Value. | Number. | Value. | Number. | Value. |
| | | | \$ | | | | \$ | | \$ | | \$ | | |
| 1 | Sherbrooke and Megantic..... | 15 | 150 | 100 | | | | | | | | | |
| 2 | Magog and Brome..... | | | 35 | | | | | | | | | |
| 3 | Missisquoi Bay..... | 11 | 104 | 34 | | | | 1057 | 575 | | | | |
| 4 | Iberville (including Richelieu River)..... | 37 | 543 | 35 | | | | 430 | 300 | | | *60 | 3670 |
| 5 | Chateauguay..... | 75 | 1350 | 97 | 7 | 140 | 210 | 664 | 664 | | | | |
| 6 | Beauharnois..... | 46 | 485 | 90 | 2 | 400 | 24 | 535 | 860 | | | | |
| 7 | Laprairie to Verchères (including Montreal)..... | 21 | 210 | 42 | | | | 21 | 420 | | | | |
| | Richelieu and Yamaska (including St. Francis and Yamaska Rivers) | 169 | 1130 | 145 | 72 | 1564 | 344 | 974 | 580 | | | 54 | 940 |
| 9 | Nicolet..... | 44 | 420 | 53 | 55 | 900 | 100 | 1000 | 200 | | | 42 | 110 |
| 10 | Three Rivers..... | 17 | 170 | 17 | | | | | | | | 18 | 28 |
| 11 | Berthier, Joliette and Montcalm. | 88 | 704 | 88 | 6 | 90 | 6 | 670 | 500 | | | 50 | 100 |
| 12 | Terrebonne..... | 137 | 822 | 200 | 7 | 100 | 60 | 180 | 180 | | | 3 | 12 |
| 13 | Lake Two Mountains (including Isle Perrot)..... | 29 | 287 | 34 | 60 | 850 | 180 | | | | | 19 | 54 |
| 14 | River Beaudet..... | | | 8 | 2 | 30 | 25 | 120 | 100 | | | | |
| 15 | Lower Ottawa..... | 16 | 300 | 18 | 50 | 1000 | 350 | 20 | 18 | | | | |
| 16 | Upper Ottawa..... | 75 | 450 | 75 | 250 | 3000 | 1800 | | | | | | |
| 17 | Gatineau Lakes..... | | | | | | | | | | | | |
| | Totals..... | 780 | 7125 | 1071 | 511 | 8074 | 3099 | 5671 | 4397 | | | 246 | 4914 |

†50,000 bushels tom cod, \$25,000 included.

*48 of these are verveux. One of these Eel weirs is valued \$3,000.

together with the Yield, Value and Kinds of Fish, &c., within the District
Ottawa, during the Year 1890.

| KINDS OF FISH. | | | | | | | | | | VALUE. | Numbers. |
|----------------|------------|------------|----------------|-----------------|------------------|-----------|----------------|------------|----------------------------|------------|----------|
| Trout, lbs. | Shad, lbs. | Eels, lbs. | Sturgeon, lbs. | Whitefish, lbs. | Maskinongé, lbs. | Bas, lbs. | Pickarel, lbs. | Pike, lbs. | Corse and Small Fish, lbs. | | |
| | | | | | | | | | | \$ cts. | |
| 46800 | 10300 | 13500 | 5000 | 2500 | 15250 | 25000 | 24150 | 9500 | 30100 | 11,850 00 | 1 |
| 10000 | | | | | | 9000 | 12000 | | 40000 | 3,460 00 | 2 |
| | 21815 | | | | | | 39600 | | 41800 | 4,938 90 | 3 |
| | | 51540 | 800 | | | 800 | 210 | | 84200 | 5,727 00 | 4 |
| | | 30000 | 75000 | | 12000 | 20000 | 22000 | 50000 | 250000 | 19,540 00 | 5 |
| | | 42800 | 40900 | | 4500 | 6500 | 10100 | 23700 | 121400 | 11,115 00 | 6 |
| | 1000 | 400000 | 45000 | 15000 | 60200 | 4000 | 30000 | 64500 | 120000 | 40,437 00 | 7 |
| | 250 | 50000 | 1600 | 300 | 3400 | 11000 | 4200 | 4000 | 166000 | 9,431 00 | 8 |
| | 1640 | 19000 | 5500 | | 400 | 1300 | 1500 | 2600 | | 1,890 40 | 9 |
| 20000 | 40000 | 25000 | 40000 | | 3000 | 1000 | 12000 | 40000 | 510000 | 51,560 00 | 10 |
| | | 3000 | | | | 2500 | 4900 | 5500 | 37000 | 2,009 00 | 11 |
| 54000 | 1000 | 2710 | 2000 | | 840 | 4600 | 4500 | 4850 | | 6,581 50 | 12 |
| | | 2500 | 2000 | | 9100 | 4600 | 10800 | 8900 | 40400 | 3,397 00 | 13 |
| | | 28000 | 8000 | | 600 | 700 | 400 | 500 | | 2,287 00 | 14 |
| 1200 | 800 | 1250 | 22000 | 2500 | 1150 | 900 | 7300 | 14750 | 50000 | 4,561 50 | 15 |
| | | 6500 | 10000 | | 8000 | | 12000 | 10400 | 35600 | 3,778 00 | 16 |
| 120000 | | | | 16500 | | 13400 | | 46000 | | 16,424 00 | 17 |
| 252000 | 76805 | 675800 | 257800 | 36800 | 118140 | 105300 | 195660 | 285200 | 1526500 | 198,987 30 | |

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Cape Chatte to Point Lévis, in 1889 and 1890.

| Kinds of Fish. | Prices | 1889. | | 1890. | |
|-----------------------------------|-------------|-----------|------------|-----------|------------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | | | |
| | \$ cts. | | \$ cts. | | \$ cts. |
| Shad..... | Lbs. 0 06 | 52,585 | 3,155 10 | 26,998 | 1,619 88 |
| Eels..... | Lbs. 0 06 | 375,410 | 22,524 60 | 425,980 | 25,558 80 |
| Herring..... | Brls. 4 00 | 17,576 | 46,304 00 | 12,730 | 50,920 00 |
| Sturgeon..... | Lbs. 0 06 | 41,290 | 2,447 40 | 57,770 | 3,466 20 |
| Sardines..... | Brls. 3 00 | 5,230 | 15,690 00 | 6,164 | 18,492 00 |
| Trout..... | Lbs. 0 10 | 21,700 | 2,170 00 | 35,300 | 3,530 00 |
| Salmon..... | Lbs. 0 20 | 32,235 | 6,447 00 | 24,630 | 4,926 00 |
| Whitefish and bar fish..... | Lbs. 0 08 | 18,101 | 1,448 08 | 54,000 | 4,320 00 |
| Pickarel..... | Lbs. 0 06 | 2,167 | 130 02 | 6,330 | 379 80 |
| Porpoise skins..... | No. 4 00 | 436 | 1,744 00 | 318 | 1,272 00 |
| do oils..... | Galls. 0 40 | 26,160 | 10,464 00 | 19,080 | 7,632 00 |
| Coarse and mixed fish..... | Brls. 3 00 | 1,291 | 3,873 00 | 13,108 | 39,324 00 |
| Fish for manure..... | Brls. 0 50 | 12,608 | 6,304 00 | 9,020 | 4,510 00 |
| Seal skins..... | No. 1 00 | | | 42 | 42 00 |
| do oil..... | Galls. 0 40 | | | 420 | 168 00 |
| Total Value of the Fisheries..... | | | 122,731 20 | | 166,160 68 |
| Increase..... | | | | | 43,429 48 |

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Quebec to Bersimis, in 1889 and 1890.

| Kinds of Fish. | Prices | 1889. | | 1890. | |
|-----------------------------------|-------------|-----------|-----------|-----------|-----------|
| | | Quantity. | Value. | Quantity. | Value. |
| | | | | | |
| | \$ cts. | | \$ cts. | | \$ cts. |
| Shad..... | Lbs. 0 06 | 22,170 | 1,330 20 | 4,300 | 250 80 |
| Eels..... | Lbs. 0 06 | 135,756 | 8,145 36 | 198,036 | 11,882 16 |
| Herring..... | Brls. 4 00 | 858 | 3,432 00 | 385 | 1,540 00 |
| Sturgeon..... | Brls. 0 06 | 19,800 | 1,188 00 | 14,800 | 888 00 |
| Sardines..... | Brls. 3 00 | 429 | 1,287 00 | 470 | 1,410 00 |
| Salmon..... | Lbs. 0 20 | 41,628 | 8,325 60 | 65,672 | 13,134 40 |
| Trout..... | Lbs. 0 10 | 133,200 | 13,320 00 | 128,675 | 12,867 50 |
| Pickarel..... | Lbs. 0 06 | 123,092 | 7,385 52 | 72,772 | 4,366 32 |
| Pike..... | Lbs. 0 05 | 40,000 | 2,000 00 | 25,000 | 1,250 00 |
| Whitefish..... | Lbs. 0 08 | 137,272 | 10,981 76 | 87,868 | 7,029 44 |
| Winnish..... | Lbs. 0 06 | 100,000 | 6,000 00 | 100,000 | 6,000 00 |
| Coarse and mixed fish..... | Brls. 3 00 | 1,040 | 3,120 00 | 802 | 2,406 00 |
| Fish as manure..... | Brls. 0 50 | 6,956 | 3,478 00 | 16,110 | 8,055 00 |
| Porpoise skins..... | No. 4 00 | 298 | 1,192 00 | 156 | 624 00 |
| do oil..... | Galls. 0 40 | 17,880 | 7,152 00 | 8,280 | 3,312 00 |
| Total Value of the Fisheries..... | | | 78,337 44 | | 75,022 82 |
| Decrease..... | | | | | 3,314 62 |

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Quebec to Upper
Ottawa, in 1889 and 1890.

| Kinds of Fish. | Prices. | 1889. | | 1890. | |
|-----------------------------------|---------|-----------|-----------|------------|------------|
| | | Quantity. | | Quantity. | |
| | | Value. | | Value. | |
| | | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Shad..... | Lbs. | 0 06 | 95,575 | 5,734 50 | 76,805 |
| Eels..... | " | 0 06 | 725,425 | 43,525 50 | 675,800 |
| Sturgeon..... | " | 0 06 | 397,235 | 23,834 10 | 257,800 |
| Trout..... | " | 0 10 | 334,800 | 33,480 00 | 252,000 |
| Whitefish..... | " | 0 08 | 37,960 | 3,036 80 | 36,800 |
| Maskinonge..... | " | 0 06 | 129,130 | 7,747 80 | 118,440 |
| Bass..... | " | 0 06 | 110,920 | 6,665 20 | 105,300 |
| Pickarel..... | " | 0 06 | 357,360 | 21,441 60 | 195,660 |
| Pike..... | " | 0 05 | 314,880 | 15,744 00 | 285,200 |
| Mixed fish..... | " | 0 03 | 1,777,000 | 53,310 00 | 1,526,500 |
| Tom Cod..... | Bush. | | 30,000 | 18,000 00 | 50,000 |
| Total Value of the Fisheries..... | | | | 232,509 50 | 198,987 30 |
| Decrease..... | | | | | 33,522 20 |

RECAPITULATION.

YIELD and Value of the Fisheries of the Province of Quebec (*Exclusive of the
Gulf Division*) for 1890.

| Kinds of Fish. | | Quantity. | Value. |
|---------------------|--------|-----------|------------|
| | | | \$ cts. |
| Shad..... | Lbs. | 108,103 | 6,486 18 |
| Eels..... | " | 1,299,816 | 77,988 96 |
| Herring..... | Brls. | 13,115 | 52,460 00 |
| Sturgeon..... | Lbs. | 330,370 | 19,822 20 |
| Sardines..... | Brls. | 6,634 | 19,902 00 |
| Trout..... | Lbs. | 415,975 | 41,597 50 |
| Salmon..... | " | 90,302 | 18,060 40 |
| Pickarel..... | " | 274,762 | 16,485 72 |
| Pike..... | " | 310,200 | 15,510 00 |
| Whitefish..... | " | 178,668 | 14,293 44 |
| Maskinonge..... | " | 118,440 | 7,106 40 |
| Bass..... | " | 105,300 | 6,318 00 |
| Tom Cod..... | Bush. | 50,000 | 25,000 00 |
| Winninich..... | Lbs. | 100,000 | 6,000 00 |
| Mixed fish..... | Brls. | 21,581 | 87,525 00 |
| Fish as manure..... | " | 25,130 | 12,565 00 |
| Porpoise skins..... | No. | 474 | 1,896 00 |
| do oils..... | Galls. | 27,360 | 10,944 00 |
| Seal skins..... | No. | 42 | 42 00 |
| do oils..... | Galls. | 420 | 168 00 |
| Total in 1890..... | | | 440,170 80 |
| do 1889..... | | | 433,578 14 |
| Increase..... | | | 6,592 66 |

GENERAL RECAPITULATION.

YIELD and VALUE of the Fisheries in the Whole Province of Quebec, for 1890.

| Kinds of Fish. | | Quantity. | Value. |
|---|--------|-----------|--------------|
| | | | \$ cts. |
| Cod..... | Cwt. | 153,709 | 614,836 00 |
| Herring, pickled..... | Brls. | 19,892 | 79,568 00 |
| do smoked..... | Boxes. | 885 | 216 25 |
| Mackerel..... | Brls. | 5,023 | 75,345 00 |
| Haddock..... | Cwt. | 1,298 | 5,192 00 |
| Halibut..... | Lbs. | 92,001 | 9,200 10 |
| Salmon, pickled..... | Brls. | 444 | 7,080 00 |
| do fresh..... | Lbs. | 570,756 | 114,151 20 |
| Shad..... | do | 108,108 | 6,486 18 |
| Eels..... | do | 1,299,816 | 77,988 96 |
| do pickled..... | Brls. | 72 | 720 00 |
| Sardines..... | do | 6,634 | 19,902 00 |
| Smelt..... | Lbs. | 100,745 | 5,037 25 |
| Sturgeon..... | do | 330,370 | 19,822 20 |
| Trout..... | do | 415,975 | 41,597 50 |
| do..... | Brls. | 153 | 1,530 00 |
| Winninish..... | Lbs. | 100,000 | 6,000 00 |
| Whitefish..... | do | 178,668 | 14,293 44 |
| Maskinongé..... | do | 118,440 | 7,106 40 |
| Bass..... | do | 105,300 | 6,318 00 |
| Pickarel..... | do | 274,762 | 16,485 72 |
| Pike..... | do | 310,200 | 15,510 00 |
| Tom cod..... | Bush. | 50,000 | 25,000 00 |
| Cod, tongues and sounds..... | Brls. | 183 | 1,830 00 |
| Lobsters, canned..... | Lbs. | 616,218 | 73,946 16 |
| Small and mixed fish..... | Brls. | 21,610 | 87,612 00 |
| Sealskins..... | No. | 17,045 | 17,045 00 |
| Porpoise skins..... | No. | 549 | 2,271 00 |
| Fish oils..... | Galls. | 206,796 | 82,718 40 |
| Fish used as bait..... | Brls. | 49,492 | 74,238 00 |
| do Manure..... | do | 61,066 | 30,533 00 |
| Fish used for local consumption not included..... | do | 18,885 | 75,540 00 |
| Total for 1890..... | | | 1,615,119 76 |
| do 1889..... | | | 1,876,194 19 |
| Decrease..... | | | 261,074 43 |

STATEMENT

OF the Number and Value of Boats, Nets and other Fishing material employed in the Province of Quebec (*Exclusive of the Gulf Division*).

| Articles. | Value. |
|-----------------------------|---------------|
| | \$ |
| 992 boats | 14,432 |
| 29,574 fathoms of nets..... | 14,403 |
| 5,671 do seines..... | 4,397 |
| 432 brush weirs..... | 27,367 |
| 766 eel weirs..... | 24,449 |
| Total..... | 85,048 |

NOTE.—The number of men engaged fishing is given as 2,431, but they cannot be considered as regular fishermen as most of them only fish during a short period of the year.

STATEMENT of Value of Vessels and Boats and Fishing Material employed in the Whole Province of Quebec, 1890.

| Articles. | Value. | Total. |
|--------------------------------|---------|---------|
| | \$ | \$ |
| 67 Vessels, 2,097 tons | 61,100 | |
| 6,182 Boats and flats..... | 180,625 | |
| 216,912 Fathoms of Nets..... | 124,591 | |
| 30,955 do Seines..... | 33,152 | |
| 1,198 Brush and eel weirs..... | 51,816 | |
| 28 Trap nets and bag nets..... | 4,060 | |
| | | 455,344 |
| 33 Lobster factories, &c. | 28,000 | |
| 38,600 do traps..... | 38,200 | 66,200 |
| | | 521,544 |

STATEMENT of Men Employed in the Fisheries of Quebec, for 1890.

| | |
|-----------------------------|---------------|
| Sailors..... | 364 |
| Fishermen and shoremen..... | 10,639 |
| Total..... | 11,003 |

APPENDIX E.

MANITOBA AND NORTH-WEST TERRITORIES.

ANNUAL REPORT OF INSPECTOR ALEXANDER McQUEEN, ON THE
FISHERIES OF MANITOBA AND THE NORTH-WEST TERRITORIES,
FOR THE YEAR 1890.

WINNIPEG, 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my seventh annual report on the fisheries of the Province of Manitoba and the North-West Territories, being for the year ending 31st day of December, 1890. Accompanying this report will be found various statistics as to the catch, the number of men engaged, and boats employed in connection with the fisheries; also, the quantity of twine used, and the appliances necessary to preserve fish, preparatory to their being sent to market.

Lake Winnipeg is still, as it always has been, the principal place for trade fishing in the North-West. There was no addition to the number of firms engaged in fishing in this lake during the past year, nor much increase in the quantity of plant used. One firm added a small steam tug to its fishing fleet, and another floating freezer was constructed at Selkirk. I may state, that during the short season when fishing was carried on, there were about the same number of boats and twine used as in the previous year, and that although the season was shorter, the catch was slightly in excess of that of 1889.

In addition to those engaged fishing during the summer, with steam tugs and sail boats, there are quite a number of men who devote a couple of months to winter fishing, principally Icelanders, half-breeds and Indians. They fish and sell to the trade. Their catch, this year, has not been as good as usual, owing to the extension of the close season for whitefish from the 10th to the 30th of November. One good result, however, of the change, will be that a better grade of fish will be put on the market, as fish caught in winter are better preserved than those obtained formerly in open water, early in November.

The Indians fished, as usual, during the spawning season, but not to the same extent as formerly, because they have been prohibited from selling their catch during that period. Indians have been deluded into the idea that they had a legal right, under treaty stipulations, to fish during the close season; but a late decision of the Department of Justice has set this matter at rest. The Minister, after fully reciting the terms of the several treaties, concludes by stating: "The regulations are binding upon the Indians there to the same extent as they are binding upon the other subjects of Her Majesty. The close seasons, created by the regulations, apply to the Indians, subject to the proviso contained in section 5 of the Act; and the Indians have no rights of fishing without license or during the spawning season, or on the spawning grounds, as provided for by that section." In view of this decision, and rather than at once enforce a suspension of Indians fishing in close season, it might be better to act in a tentative way, and issue licenses to permit them to fish for their own immediate use. They have enjoyed this privilege so long that to rigidly enforce the regulations might lead to privation and trouble. It might be advisable in this connection for the Indian authorities to supply the Indians with better appliances for fishing in deep water at all seasons of the year, and thus obviate

the necessity of fishing for their own use, as they now do, during the spawning season. The agents, also, who fully understand the situation, might educate the Indians up to the necessity of protecting the fish in their own interest.

The total catch this year, including that for home consumption, may be summarized as follows:—

| | Lbs. | Value. |
|-----------|-----------|--------------|
| 1890..... | 5,967,271 | \$232,104 05 |
| 1889..... | 5,859,927 | 225,679 00 |

The quantity of fish exported last year was 1,781,587 lbs., and 4,078,340 was used in Canada, either for home consumption here or in the eastern Provinces.

The quantity exported, this year, was 2,055,988 lbs., leaving 3,986,743 lbs. for consumption at home.

THE FISH TRADE.

The principal firms fishing on a large scale were: The Manitoba Fish Company; Wm. Robinson & Co., and the Selkirk Fish Company. They operated in Lake Winnipeg, only, and at the following places: Beren's Island, Reindeer Island, Selkirk Island and Little Saskatchewan Bay. One of the firms fished for a short time, at Pigeon River, Blood Vein River and Grand Marais, for sturgeon.

The total catch of the firms may be summarized as follows:—

| | Lbs. | Value. |
|----------------|------------------|--------------------|
| Whitefish..... | 1,735,492 | \$86,774 60 |
| Pickrel..... | 114,007 | 3,420 21 |
| Sturgeon..... | 53,283 | 1,598 49 |
| Pike..... | 18,062 | 361 49 |
| Catfish..... | 3,380 | 101 40 |
| Total..... | <u>1,924,224</u> | <u>\$92,255.94</u> |

The firms employed during the year 68 fishermen, 3 small tugs and 25 sail boats, valued at \$43,400, and of 1,067 tons burthen. In addition to the boat fishermen, 120 other hands were employed curing and handling fish.

Thirty-two thousand fatnoms of gill net were used by these firms during the season, valued at \$4,500

They have freezers and ice-houses for the purpose of preserving fish at the following points: Selkirk, Beren's Island, Reindeer Island, Grand Rapids, Selkirk Island and the Little Saskatchewan River. These are valued at \$27,000. They also have four floating freezers or barges in which fish are preserved during transportation to Selkirk, whence they are shipped by rail to different markets. Three tugs are employed in transporting their fish from the different stations to Selkirk. The whole plant invested by these firms in the trade is valued at \$75,000.

There are, besides the above, a number of fish dealers who do not fish themselves, but purchase during the winter months from native fishermen and settlers their winter catch of fish. This trade lasts for about two months, after the close season for whitefish on the 1st of December. The principal buyers are Blackwood Bros., Hugh Armstrong and B. Cohen. Icelanders, Indians and settlers who reside on the south end of Lake Winnipeg, find winter fishing a great benefit at a season when other labour is not in demand. The "Logberg," an Icelandic paper, in discussing this question, says: "Both winter fishing and employment with the traders in summer confers a great boon on the Icelandic community, they having been induced to settle in the vicinity of Lake Winnipeg mainly on account of the fisheries. A large number of them being in humble circumstances find the fishing trade to be of material advantage in the maintenance of themselves and their families. There are now about 3,000 Icelandic settlers on this lake, and probably 2,000 Indians, all of whom are more or less benefited by the fisheries."

The fishing companies exported a large quantity of their catch to leading cities in the United States. One firm sold 100,000 lbs. of whitefish in Winnipeg alone during the past year. Considerable quantities were shipped to Windsor, Toronto and Montreal, and some were sold in Portage la Prairie, Brandon and other towns along the Canadian Pacific Railway line. Whitefish sold in lots at Selkirk at 5 cents per pound.

EXPORT OF FISH.

Through the courtesy of Lieut.-Col. Scott, Collector of Customs at the port of Winnipeg, I am able to submit a statement of the export of fish to the United States during the year 1890:—

| | 1889. | 1890. |
|------------------------|------------------|------------------|
| | Lbs. | Lbs. |
| Whitefish (fresh)..... | 1,083,112 | 1,446,289 |
| do (salted)..... | 63,800 | ..... |
| Pike..... | 364,628 | 339,222 |
| Pickrel..... | 154,779 | 250,936 |
| Tullibees..... | 58,343 | 42,506 |
| Perch..... | 3,601 | 690 |
| Catfish..... | 180 | 855 |
| Gold Eyes..... | 500 | 140 |
| Sturgeon..... | 45,830 | 231,986 |
| Suckers..... | 5,793 | ..... |
| Sheepshead..... | 900 | ..... |
| Salmon Trout..... | 121 | 150 |
| Total..... | <u>1,781,587</u> | <u>2,332,774</u> |

In the export of whitefish, pickerel, pike and sturgeon, allowance must be made for fish caught in American waters, in the Lake of the Woods, by the Baltimore Fish Company. These fish were shipped by way of Rat Portage to Winnipeg, where they were entered for export to Minneapolis. The entry is thus misleading, and might be construed into being products of Canadian waters. The quantity thus caught is as follows:—

| | |
|----------------|----------------|
| Whitefish..... | 54,629 |
| Pike..... | 13,769 |
| Pickrel..... | 29,685 |
| Sturgeon..... | 178,703 |
| Total..... | <u>276,786</u> |

This quantity deducted from 2,332,774 lbs. will leave 2,055,988 lbs., as the actual Canadian export.

VARIETIES OF FISH.

The lakes and rivers of Manitoba and the North-West Territories abound with fish of various kinds. The staple products of our waters are whitefish, trout, pickerel, sturgeon, pike, catfish and tullibees. In addition to these, there are a large number of others, usually classed as coarse fish, but which are, nevertheless, fair food fish, and find a ready market for home consumption. I have, from time to time, collected specimens of the different kinds of fish of this region and forwarded them to Prof. Sweeney, of St. Paul, from whom I have received great assistance in their classification. I submit the following descriptions:—

WHITEFISH (*Coregonus albus*).—This species is to be found in all our great lakes, and in many of the smaller ones, and streams tributary to them. They are a pro-

lific fish, and spawn in autumn. Some deposit their ova in sand or rocky bottoms on the shores of a lake, while others ascend rivers to other lakes, from thirty to fifty miles, for the same purpose. These fish vary in weight from 3 to 20 lbs. A female fish of 5 lbs. will deposit 50,000 eggs. An authority on this subject estimates that for every ounce in weight, a whitefish will exude 600 ova. They frequent clear water, and subsist for the most part on infant mollusks, annelides, the larvæ of the various species of the ophemeræ, and most of all the crustacean class of water life. They are undoubtedly the best food fish of this region, and command a higher price than any other fish in the market. They are migratory in their habits, and change from one part of the lake to another, thus sometimes giving rise to a clamour that there is scarcity.

The *American Angler*, in a recent issue, refers to this question, and citing Milner, an authority on the subject, gives the following summarized statement:—

| Weight of Fish. | Weight of Ovaries. | Number of Eggs. |
|-------------------|---------------------|-----------------|
| 2 lbs. | 5 $\frac{3}{4}$ oz. | 21,229 |
| 2 $\frac{3}{4}$ " | 7 $\frac{1}{2}$ " | 28,500 |
| 4 " | 16 " | 48,000 |
| 7 $\frac{1}{2}$ " | 25 " | 66,600 |

"This makes an average of about 10,000 eggs increase for every additional pound weight in the fish, which is the late Mr. Seth Green's estimate, from observations made in spawning white fish. If even 1 per cent. reached maturity, the spawning of a pair of whitefish would give as its result 400 pairs of mature fish, and without interference of other than natural causes, such increase would, in a few generations, completely overstock any area of water occupied by them."

LAKE TROUT (*Salvelinus namaycush*).—This species of fish is very scarce in Lake Winnipeg, but it is said to be more abundant in many of the inland waters of the adjacent district. Some have been found in the vicinity of Beren's and Reindeer Islands, in Lake Winnipeg. They are a good fish, as they naturally must be, belonging as they do to the great salmon family. Those found in our waters are, however, inferior in quality to those caught in Lake Superior. The lake trout inhabits only lakes containing deep, cold, clear water, and readily succumb in waters of a higher temperature. They leave deep water in October and frequent the shoals to spawn. The nest is usually made in the gravel, where the female deposits her eggs, which are immediately after impregnated by the male, as he is in close attendance. I obtained a fine specimen of this fish last year in Sturgeon Bay, weighing 28 pounds.

This species of fish for the most part subsist upon other fish, and are very fond of whitefish.

PICKEREL (*Stizostethium vitreum*).—This species of fish, known as the wall-eyed pike or doré, is abundant in our north-west waters, and is an excellent table fish. They are usually found in the shallow waters of our lakes. They are also found in some of our rivers, disporting themselves where the water is clear and swift. They take a delight in surmounting rapids, and may sometimes be found at the mouth of sloughs, when the water is running out of them. They spawn in April and May. They are highly prized by the Indians who reside on the lakes, and, even in the trade, rank next to whitefish, and command a ready sale in the market.

STURGEON (*Acipenser rubicundus*).—These fish are abundant in Lake Winnipeg and some of the other inland lakes and rivers, principally Rainy River, a tributary of the Lake of the Woods. Strange to say, they are not found in Lakes Manitoba or Winnipegosis. It is an excellent food fish, and always commands a ready sale in the market. The sturgeon is the most prolific of all fish in our waters. It spawns in the spring of the year, usually in May and June. A good sized female fish will deposit one million eggs. The roe of the sturgeon is very much sought after in the manufacture of Caviare, which promises in the future to be a paying industry here. I have seen some sturgeon caught in Lake Winnipeg weighing over 200 lbs. The average weight, however, is from 20 to 40 lbs. Sturgeon prey upon the spawn of other fish, and are particularly destructive to whitefish spawn.

PIKE (*Esox lucius*).—This species of fish, commonly known in the North-West under the name of Jackfish, abounds in all our waters. They are a fair food fish, although not realizing as good a market price as whitefish, trout, pickerel or sturgeon. Pike are very destructive of other kinds of fish, and subsist almost entirely upon them. They are exceedingly voracious; I have opened some in whose stomach I found other fish weighing from 2 to 4 pounds. It eats nearly all kinds of fish, sparing not even its own species. They spawn in April, running up into rivers to marshy and grassy places, where they deposit their ova. There is a prejudice against this fish, from the fact that it preys upon whitefish and other good food fish. The people would not object to the extermination of this species, provided the smaller lakes could be stocked with whitefish, trout, bass and carp in their stead.

TULLIBEE (*Coregonus tullibee*).—This species of fish somewhat resembles the whitefish, and is classed by scientists as belonging to the same family. They are, however, greatly inferior to whitefish as a table fish, and do not command as good a price in the market. They spawn in December, and are a prolific fish. They find a ready sale at home, and many are exported to foreign markets.

CATFISH (*Siluridae*).—This species of fish is plentiful in Lake Winnipeg, and is also found in many of our rivers. It is considered a good fish, and thought by many to rank next to pickerel (*doré*). They spawn in May and June.

Gold Eye (*Hyoden chrysopsis*).—This is a palatable food fish, which finds a ready sale in Winnipeg and other towns for home consumption. It is plentiful in all our large lakes and most of the rivers and streams of the North-West. They spawn in April and May, and are very prolific. They are a dry and bony fish, but when smoked, their flavour is greatly improved, and they command a much higher price.

The other species of fish under my observations are: Sheephead, perch, buffalo fish, suckers and ling, which are generally classed as coarse fish. I may, in another report, give some particulars about them. The buffalo fish are abundant in several of our lakes, and vary in weight from 5 to 40 lbs. The ling or eel pout, unfortunately, are too plentiful in our waters. They are unfit for food, and are a great annoyance to fishermen when found in their nets. I might here mention that turtles are frequently found in our waters. I saw one caught last summer in the Red River, opposite Winnipeg, which weighed 14 lbs.

REPORTS OF FISHERY GUARDIANS.

I have much pleasure in stating that the several fishery guardians were attentive to their duties and attended to the enforcement of the regulations during the close season. Their supervision, however, was not confined to the close season, as they devoted considerable time in watching the operations of fishermen, ascertaining the number of men and boats employed, the quantity of nets used, and particulars as to the catch. They also assisted me in the collection of license fees from fishermen, who seldom visit Winnipeg.

ST. LAURENT, LAKE MANITOBA.

Guardian Daniel Devlin, whose division extends from Totogan to St. Laurent, on the south shore of Lake Manitoba, and from St. Laurent to Long Point, on the east shore, reports fishing as mainly carried on during the winter season, and by people residing in the vicinity of the lake. The fishing industry in Lake Manitoba differs from that of Lake Winnipeg, inasmuch as there were no large operators, and consequently no plant used during the summer seasons. This he attributes to the difficulty of navigating the lake with boats of any considerable draft of water, owing to its shallowness. Whitefish, too, are not as plentiful as in other lakes. He states that the extension of the close season for whitefish is detrimental to the interests of native fishermen, who depend, to some extent, for sustenance during the winter upon the catch they obtain during the early part of the season. By making tests in regard

to the spawning of whitefish, and putting down nets on the 10th, 15th, 20th and 25th of November, this officer found that on the 15th of that month, whitefish had ceased spawning and left for deep water.

The following is a summary of the catch for market in this district for 1890 :—

| | Lbs. | Value. |
|-----------------|---------|------------|
| Whitefish | 50,000 | \$2,500 00 |
| Pickrel | 75,000 | 2,250 00 |
| Pike | 140,000 | 2,800 00 |
| Tullibee | 8,000 | 160 00 |
| Mixed fish..... | 15,000 | 300 00 |
| Total..... | 288,000 | \$8,010 00 |

In addition to the above, 40,000 lbs. mixed fish, valued at \$1,200, are given as an estimate of the quantity used for home consumption. Nets, measuring 7,000 fathoms of 6-inch mesh, extension measure, and valued at \$1,400, were used. No boats were employed, as on account of the extension of the close season, fishing was carried on only during the winter.

PORT ALEXANDER, LAKE WINNIPEG.

Guardian John Wood, whose division extends from the mouth of the Red River, along the east side of Lake Winnipeg to Loon Straits, states that fishing during the year was carried on principally for home consumption. A pound-net was used at Grand Marais for about a month, by the Manitoba Fish Company. This officer reports that Raymond & Anderson, with a small sail boat and a few gill-nets, started to fish early in June at Hole River, near the Indian Reserve. The Indians having complained about this, the firm in question was urged to change their location, which they did, and proceeded to Black Island. Winter fishing opened about the 1st December, and will continue until about the 1st February. With the exception of the above mentioned pound-net, all other fishing was carried on with gill-nets by natives and settlers. The mode of fishing in winter is by cutting holes in the ice and stretching the net underneath it from hole to hole.

Whitefish spawned from eight to ten days later than usual. This officer thinks this was owing to the mild weather and prevalent south winds, which materially effected the temperature of the water. He considers the twenty days extension of close time for whitefish beneficial. The regulations regarding the close season were strictly observed by licensed fishermen. Indians, however, fished as usual, but only for their own use.

There were 18,025 fathoms of gill-nets in use in this district during the year, valued at \$2,525; also, 167 skiffs and birch-bark canoes, valued at \$1,035, used by settlers in fishing.

Subjoined is a statement of the catch of fish for the year ending 31st December, 1890 :—

| | Lbs. | Value. |
|-----------------|---------|-------------|
| Whitefish..... | 242,430 | \$12,121 50 |
| Pickrel | 134,840 | 4,035 20 |
| Pike..... | 10,380 | 207 60 |
| Sturgeon..... | 52,330 | 1,569 90 |
| Mixed fish..... | 278,800 | 5,560 00 |
| Total..... | 718,780 | \$23,494 20 |

Three small traders purchased on the ice 50,000 lbs. of whitefish and 80,000 lbs. of pickrel and pike, which were marketed at Selkirk.

Mr. Wood reports that Loon, Rice, Split Rock, Hole, Bad Throat, Sand, Black, Rat and Bear Rivers, flowing into Lake Winnipeg, have their sources in a large number of inland lakes, whose waters are frequented by whitefish, sturgeon, pickerel, trout and pike. Lake Debonne, especially, contains large quantities of sturgeon. It is the source of Rat River, and is situate 35 miles from the mouth of Bad Throat River. Mr. Wood caught a number of beautiful trout last summer in Sturgeon Sound Lake, the source of the Bad Throat River. Two of these fish weighed 27 lbs. each.

WATER HEN RIVER, LAKE WINNIPEGGOOSIS.

Guardian J. H. Adams, whose division extends from Duck Bay to Lake Danphin, on the south-west side of Lake Winnipegosis and to Water Hen Lake and River on the east side, states that fishing was good during the past year. The close season was well observed.

The catch is given as follows :—

| | Lbs. | Value. |
|-----------------|----------------|--------------------|
| Whitefish..... | 390,000 | \$19,500 00 |
| Pickerel..... | 30,000 | 900 00 |
| Pike..... | 20,000 | 400 00 |
| Mixed fish..... | 5,000 | 150 00 |
| Total... .. | <u>445,000</u> | <u>\$20,950 00</u> |

He reports 157,000 lbs. of whitefish sold to the trade at 2 cents per lb., which were taken by teams to the Straithclair Station, on the Manitoba and North-Western Railway, and Reaburn, on the Canadian Pacific Railway, and shipped thence to eastern and southern markets.

The number of men engaged in fishing was 50, and the number of boats and canoes 35; valued at from \$10 to \$25 each. There were 8,300 fathoms of gill-net used, valued at \$1,500.

The purchasers of fish in this district were: John McKenny & Co., Adams, Ross & Co., and one or two other small dealers.

FAIRFORD, LAKE MANITOBA.

Guardian Wm Archer, whose division comprises Fairford and Lake St. Martin on Lake Manitoba, and Little Saskatchewan River which flows into Lake Winnipeg, reports whitefish more abundant during the months of October and November, than for years before. He estimates that the Indians caught forty thousand (120,000 lbs.) whitefish during the close season.

Mr. Archer gives it as his opinion that the extension of the close season from the 10th of November until the 1st of December is quite unnecessary in this division, as the whitefish have done spawning by the 15th of November at latest; it being a rare occurrence to find any fish containing spawn later than that date. He reports fish scarce during the month of December, as they had nearly all returned to deeper water. Not more than ten thousand whitefish (30,000 lbs.) were caught, averaging about 3 lbs. each, and about 2,000 lbs. pickerel.

He estimates the entire catch for the year as follows:—

| | Lbs. | Value. |
|----------------|----------------|----------------|
| Whitefish..... | 150,000 | \$3,750 00 |
| Pickerel..... | 50,000 | 1,000 00 |
| Pike..... | 22,000 | 220 00 |
| Suckers..... | 200,000 | 1,000 00 |
| Gold Eyes. . | 28,000 | 140 00 |
| Total | <u>450,000</u> | <u>\$6,110</u> |

Of the above, 3,000 lbs. of whitefish and 5,000 lbs. of pickerel were sold to traders at Fairford.

The fishermen of this division use gill-nets, worked by means of small skiffs and canoes in summer and through the ice in winter. The quantity of nets used was 7,500 fathoms, fished by three bands of Indians and half-breed fishermen living in the vicinity. Some difficulty was experienced in preventing nets being set across the channel of the Saskatchewan River and the Narrows of Lake St. Martin's, thus obstructing the free passage of fish to and from Lake Winnipeg. This necessitated several trips to Fairford and to the mouth of the Little Saskatchewan River. The close season was observed; no fish being caught by any one except Indians, who fished entirely for their own use.

Fish sold to dealers at Fairford, have to be conveyed by teams to stations on the Canadian Pacific Railway; a distance of about 150 miles. The Indians realize about 2½ cents per lb. for whitefish at Fairford and Lake St. Martin. They have an abundant supply of food.

ROCK LAKE DIVISION, SOUTHERN MANITOBA.

Guardian W. J. Cooper, who has charge of the Rock Lake Division, in Southern Manitoba, reports considerable fishing in Swan, Rock and Pelican Lakes during the past year, principally in winter. The Crofters, who have settled in the vicinity of the latter, found the fishing resources of its waters quite valuable for the maintenance of their families, who are just tiding over their first year in Manitoba. The catch for the year is estimated as follows:—

| | Lbs. | Value. |
|---------------|---------|------------|
| Pike | 111,000 | \$2,220 00 |
| Suckers | 7,500 | 75 00 |
| Total | 118,500 | \$2,295 00 |

No fish were marketed in Brandon this year from this division. A small quantity was sold at Killarney, Cartwright and Pilot Mound, in the vicinity of the lakes, but the greatest part was used by the settlers themselves. A number of people residing in this section would like to see the pike destroyed in these waters, and whitefish, bass or carp substituted in their place.

SHOAL LAKE DIVISION.

Guardian J. A. Fraser, who has charge of this division for some distance north of Stonewall, reports very little fishing in Shoal Lake. The quantity caught was 53,600 lbs. of pike, 39,200 lbs. of which were sold to traders, and the balance used at home. He reports fish scarce at the Narrows, where they are usually caught for the trade; the water at that point being very shallow. The fishermen are all, half-breeds, residing in the locality. There were only seven men engaged fishing, using seven gill nets and seven small boats.

BEREN'S RIVER DIVISION, LAKE WINNIPEG.

Guardian J. B. Johnson has charge of this most important division in the whole Province, covering, as it does a large portion of the lake, where the fishing companies operate in summer, and where a number of smaller fishermen and Indians fish during the winter. He reports that the summer season for whitefish opened much later than usual, owing to the ice in the lake preventing navigation. Fishing began at Beren's Island only on the 12th of June, but although the season was short, the catch was up to the usual quantity. Fishing at Reindeer Island was good throughout the whole season. It was also good at the Little Saskatchewan, although fish were reported scarce at the latter place towards the close of the season. The sturgeon fishery at Pigeon Bay shows a falling off. This fishing, which continued till the 12th of September, in 1889, only lasted till the 10th of August, in 1890.

Last year, too, there were two pound nets used, whereas this year there was only one. Sturgeon were more abundant at Blood Vein River this year than last. Pickerel fishing was better than for many years past.

Winter fishing commenced on 1st December, but was not as good as in previous years. The shortage in the winter catch of whitefish is accounted for by the long, open fall and the disturbed condition of the ice, caused by the heavy winds which prevailed at the beginning of December. The absence of snow, too, upon the ice, made some difference. Winter fishing for trade usually extends from the 1st of December to the 1st of February. This scarcity is the more remarkable from the fact that during the spawning season fish were noticed to be more numerous than during the year before.

Subjoined is a statement of the catch in this division:—

| | Lbs. | Value. |
|-----------------|-----------|-------------|
| Whitefish | 1,763,182 | \$88,159 10 |
| Pickerel..... | 126,204 | 3,786 12 |
| Pike..... | 19,280 | 385 60 |
| Sturgeon..... | 129,500 | 6,475 00 |
| Mixed fish..... | 16,630 | 332 60 |
| Total..... | 2,054,796 | \$99,138 42 |

Of this quantity, 1,514,701 lbs. were caught by traders in summer, and 84,676 lbs. sold to small traders in winter. The remainder, 455,407 lbs., was used by Indians and others for home consumption.

SELKIRK ISLAND.

This island, which is situated 20 miles north-west of Grand Rapids, in Lake Winnipeg, is a commercial fishing station for a few weeks in the summer, during the hot weather. Robinson & Co. and the Selkirk Fish Company were the only firms fishing there. The Selkirk Fish Company made this island their headquarters for the whole season. They used four sail boats and 5,000 fathoms of gill nets. Their catch was as follows:—

| | Lbs. | Value. |
|----------------|---------|-------------|
| Whitefish..... | 199,333 | \$9,966 65 |
| Pickerel..... | 4,000 | 120 00 |
| Pike..... | 1,072 | 21 14 |
| Total..... | 204,405 | \$10,107 99 |

This firm has one small freezer and ice-house on the island, with capacity for 5,000 fish.

W. Robinson & Co., who fished during the early part of the season at Beren's Island, transferred seven of their boats and 8,000 fathoms of gill-net to Grand Rapids, and, after fishing for about five weeks, caught.—

| | Lbs. | Value. |
|----------------|---------|-------------|
| Whitefish..... | 249,477 | \$12,473 85 |
| Pickerel..... | 4,003 | 120 09 |
| Total..... | 253,480 | \$12,593 94 |

This firm has a freezer and two ice-houses at Grand Rapids, with a capacity for 50,000 fish.

BIG ISLAND—LAKE WINNIPEG.

Stefan Jonnson, Fishery Guardian for the Icelandic Division, on Lake Winnipeg, reports fishing about the same as last year. This division extends from Hoosavick, near the mouth of the Red River, along the west shore of the lake to Grindstone

Point. It includes the fishing stations of Deer, Black and Big Islands. There were 109 men engaged fishing in this division during the past year, of which 30 were licensed. Most of those were settlers of the Gimli district. They had 96 small boats, valued at \$910, and 10,930 fathoms of gill-nets, worth about \$1,000, in use during the season.

The catch for the year was as follows:—

| | Lbs. | Value. |
|-----------------|---------|-------------|
| Whitefish..... | 58,300 | \$2,915 00 |
| Pickrel..... | 34,660 | 1,039 80 |
| Pike..... | 65,450 | 1,309 00 |
| Tullibee..... | 70,700 | 1,414 00 |
| Mixed fish..... | 247,000 | 4,940 00 |
| Total..... | 476,110 | \$11,617 80 |

The boats used, with the exception of one boat of 5 tons, were all small skiffs, carrying only one man each. They fish only a short distance from shore and each boat has on an average 100 fathoms of nets. Four men worked the large boat during the summer and caught some 12,000 lbs. of whitefish. The rest of the whitefish were caught in winter through the ice. This officer reports having travelled all over his district during the months of October and November, and found the whitefish regulations, as to the close season, strictly observed.

All fish sold to the trade were marketed in Selkirk and Winnipeg. There were no whitefish caught this winter until the 3rd of December; the lake not having been frozen over until that date.

Of the catch enumerated above, the following quantities of the respective kinds were sold to the trade:—

| | Lbs. | |
|----------------|-----------|--|
| Whitefish..... | 58,300 | |
| Pickrel..... | 14,660 | |
| Pike..... | 3,450 | |
| Tullibee..... | 28,200 | |
| Total..... | \$104,610 | |

The balance, 371,500 lbs., was used for home consumption.

RED RIVER DISTRICT.

As the fishing in this district is somewhat limited, I did not deem it necessary to employ a guardian, and therefore took it under my own direct supervision. The catch consists principally of coarse fish, which are marketed in Winnipeg. The quantity caught was as follows:

| | Lbs. | Value. |
|-----------------|---------|------------|
| Whitefish..... | 4,000 | \$ 200 00 |
| Pickrel..... | 15,000 | 450 00 |
| Pike..... | 6,300 | 126 00 |
| Sturgeon..... | 6,000 | 300 00 |
| Mixed fish..... | 110,800 | 2,216 00 |
| Total..... | 142,100 | \$3,172 00 |

Of this, 97,000 lbs. were sold to the trade and 45,000 lbs. used for home consumption.

THE NARROWS—LAKE MANITOBA.

Guardian H. Martineau reports that he visited the fishing grounds under his charge and found that the close seasons were generally well observed. In some instances he was compelled to give permission to destitute parties to fish with one common net of about 100 feet long, but of the requisite mesh. There were no fishing boats in this division, and the fishermen use only skiffs and canoes. The only saw-mill on Lake Manitoba is located at the north-east end of the lake. It was inspected during the summer, and found to be disposing of its sawdust in accordance with the law.

The number of men engaged fishing in this district is estimated at 75. Each man fishes, on an average, about five nets, making in all 375 nets, of an average length of 50 yards each, or 56,750 feet altogether. Estimating each 50 yards of nets at \$2, would make a total value of \$750.

There were 20,000 lbs. of whitefish marketed, of an average value of 3 cents per pound—say \$600; doré, 8,000 lbs., at 2½ cents, \$20; and 55,000 lbs. of pike (jackfish) at 1 cent, \$550. Total value; \$1,350.

The consumption of fish is estimated at 60,000 lbs. as follows:—

| | |
|-----------------|------------|
| Whitefish | \$1,800 00 |
| Doré | 250 00 |
| Pike | 150 00 |

Total consumed at home.... .. \$2,200 00

Fishing for trade is carried on principally during the winter, and most of the fish exported are caught under the ice. The boats used in fishing are small skiffs and canoes, of which there are about seventy, of a value of \$8 each; total value, \$580.

It is gratifying to note how careful the Indians are getting of not taking more fish than they actually require for their own use. This applies to the seasons when they are prohibited from doing so. It has at last dawned upon them that if they continue to catch fish as they used to do, depletion will follow. The close season for whitefish, as amended, exactly suits this locality, as observations made on the subject enable this officer to state. Dog trains are giving place to ponies. This is another reason why fish are not caught in such large numbers as in former years during the months of October and November, and hung up in thousands, solely for the purpose of feeding dogs during the winter. This officer has himself seen a dog devour two and three whitefish at a feed, and the fish were invariably full of spawn. When these injurious habits are done away with fish, will have a much greater chance of multiplying; and so long as wise and salutary regulations are enforced, it will be impossible to deplete these waters. Had this wholesale slaughter been allowed to continue, there could not have been fish left in three years. Even at the present time, they are so exhausted that it is difficult for a family to secure sufficient whitefish for their own use. Suckers and doré are, however, abundant; and there is no reason why whitefish should not be the same in a few years.

The Hudson's Bay Company, the Lake Manitoba Company, John McKenny and John Monroe were the only fish-buyers this year.

REPORT OF OVERSEER F. C. GILCHRIST.

FORT QU'APPELLE, ASSA., 31st December, 1890.

I beg to submit my annual report for the year ending 31st December, 1890, of the fisheries of the Qu'Appelle River, east of Pie-a-pot's Reserve and adjacent lakes. The catch, which was somewhat greater than last year, is estimated as follows:—

| | Lbs. | Value. |
|----------------------|---------|------------|
| Whitefish | 25,000 | \$1,250 00 |
| Tullibee..... | 100,000 | 4,000 00 |
| Pike | 125,000 | 2,500 00 |
| Pickarel (Doré)..... | 10,000 | 300 00 |
| Total | 260,000 | \$8,050 00 |

There were twenty-five men engaged in the fisheries with twenty boats, value, \$200; and 100 nets, value, \$400. Licenses were issued to J. Leader, sen., for 600 feet of gill-nets, D. Thorne for 100 feet and S. Trask for a seine. The total catch of fish for the Indians was about 250,000 lbs. Eight gill-nets and two seines were confiscated and destroyed during the close season, and two persons were fined for infractions of the law. Owing to the dams and an increased rainfall, the level of the lakes was considerably higher than last year, and I hope that next season it will have regained its old-time height.

While whitefish are holding their own, tullibees are increasing at a rapid rate. I regret to have to state that neither the Indians, nor the majority of the officials over them, seem to evince the slightest desire to do anything towards the preservation of the fisheries of our lakes. When one lake becomes depleted, or nearly so, through fishing during the close season, the Indians move on to the next, and it will be but a question of time when all of our smaller lakes will be in a condition of sterility. I have been asked by officials of the Indian Department where they might obtain whitefish fry to re-stock some of the fished-out lakes. I always referred them to the Department. But I would suggest that all such applications be refused, unless the Indian Department agrees to compel the Indians to abstain from fishing during the close season. To give them the fry under any other terms would, in my opinion, be a sheer waste of money.

CONCLUSION.

In conclusion, I might say that fishing in the North-West is as yet carried on only on a small scale, being confined principally to Lake Winnipeg, where three companies operate. With an increase of population and further settlement of the country, the fishing industry must largely increase. The great lakes to the west and north, with their clear and cold waters, are teeming with abundance of good food fish, for which a ready market will be found in the United States in a few years. The varieties of fish consist of whitefish, sturgeon, pickerel and lake trout; salmon trout, too, are said to be very plentiful near the mouth of Nelson River, at Hudson's Bay. An officer of the Smithsonian Institution stated that if there were reciprocity in fish between Canada and the United States, the trade in pickled and preserved fish would give employment to 10,000 persons in the lakes and rivers of the Canadian North-West alone, which, he says, contains the best fresh water varieties, including many species of the salmon family. In the near future, the Hudson Bay Railway will be completed to Fort Churchill. This road will pass through a portion of country in which are found many lakes, some of them large, and all said to contain abundance of fish of various kinds. It will also give access to the salt water fish of Hudson's Bay, which contains the choicest codfish, salmon, herring, pollock, halibut, and many other varieties. Whales, porpoises, walrus and seals are plentiful in the Bay. It will be a great opening for the fishing industry. The development of this trade would inaugurate a new era in the North-West. It is estimated that this business alone would, in a few years, almost repay the cost of building the road and make Winnipeg one of the greatest fish markets in America.

I have the honour to be, Sir,
Your obedient servant,
ALEXANDER McQUEEN,
Inspector of Fisheries for Manitoba and N.-W. Territories.

RECAPITULATION.

| | lbs. | Value. |
|-----------------|------------------|---------------------|
| Whitefish..... | 3,402,222 | \$170,111 10 |
| Pickarel | 505,707 | 15,171 21 |
| Pike..... | 744,082 | 14,881 64 |
| Sturgeon | 187,830 | 9,391 50 |
| Tullibee..... | 178,700 | 3,574 00 |
| Mixed fish..... | 948,730 | 18,974 60 |
| Total | <u>5,967,271</u> | <u>\$232,104 05</u> |

APPENDIX F.

BRITISH COLUMBIA.

ANNUAL REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR 1890, BY INSPECTOR THOMAS MOWAT.

NEW WESTMINSTER, B.C., 31st December, 1890.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries of this Province for the past year, exclusive of Indian consumption, with statistical returns and condensed report from the guardians. These returns show an increase, as compared with the year 1889, as follows:—

| | |
|------------------------|-------------------|
| Total value, 1890..... | \$3,481,432 29 |
| do 1889..... | 3,348,067 61 |
| Increase, 1890..... | <u>133,364 68</u> |

This increase is attributed to an increased catch of sturgeon, halibut, herring, mixed fish, fur seals and fish oils.

The total capital invested in the fisheries as compared with 1889, is as follows:—

| | |
|-----------------------------|---------------------|
| Capital invested, 1890..... | \$1,511,279 00 |
| do 1889..... | 1,315,272 00 |
| Increase, 1890..... | <u>\$196,007 00</u> |

This increase is accounted for by the erection of three new canneries, an additional number of boats, nets and seines, and 36 additional vessels of various sizes, with an increased tonnage of 535 tons; thus increasing the value in this branch alone by \$75,675.

The number of hands employed in the fisheries and fur-seal hunting, as compared with last year, was as follows:—

| | |
|---------------------|------------|
| Season, 1890..... | 8,223 |
| do 1889..... | 7,789 |
| Increase, 1890..... | <u>434</u> |

This increase was due to the addition of new vessels to the sealing fleet and the building of new canneries.

SALMON.

This, the largest commercial fishery at present in the Province, shows a slight falling off in the output of canned, fresh and salted fish, but which, I am happy to say, is not attributable to the decline of the fishery, but simply to low prices ruling in the markets. The total output this season was 19,895,992 one pound cans, against 20,122,128, in 1889. Had the markets been as favourable during the early part of the season as they were in 1889, I feel safe in saying that there would have been not less than 30,000,000 lbs. of salmon canned.

The run of fish on the Fraser River commenced nearly a month later than usual, and although very few canners had made preparations for a large pack, they entertained fears of being unable to fill their orders, as the boats during the month of July, which is usually the best month for fishing, only averaged 10 to 12 fish each per day. This continued until about the 10th of August, when the largest body of fish that is known to have ascended it for some years reached the river, raising the average catch per boat from 300 to 500 fish per day. So sudden was this enormous rush of fish that before canners had time to order their boat hands to stop fishing, the canneries were overstocked, and, in some instances, fish had to be thrown away. This large run continued until the last of August, when the canners completed their packs; and it is safe to say that quite as many fish ascended the river as in 1889, except that the run did not last quite so long.

On the Skeena River the run was exceedingly large; canners used all the tins they had on hand, and only worked a portion of their boats, which averaged 500 to 700 fish per day. The Standard Packing Company, while packing their last 2,000 cases, kept their cannery supplied with four boats.

The Indians on the head waters of the Skeena were amply supplied with fish, and no complaints came from that source.

At River's Inlet and Alert Bay, fishing was good. All the canners in that section used up their supply of material.

At Naas River, the catch of each individual cannery was light; but the aggregate pack on the river was about the same as usual. I am under the impression that the four canneries now located at that point have a larger capacity than that a small river like the Naas is able to stand.

The comparative pack of the canneries on the Fraser River as well as on the coast is as follows:—

| | One-pound cans. |
|---------------------------------|-----------------|
| Fraser River—17 canneries | 11,742,600 |
| Coast—17 canneries..... | 8,153,392 |

Herewith is a return of all the canneries operating in this Province, with the names of owners, or part owners, location, and amount of fish packed each season since they commenced operations. The names of some of the canneries have been changed since they commenced operations.

In connection with the yield of the Fraser River, an examination of the above schedule from 1887 to 1890, covering a period of what canners are pleased to call two poor years and two good ones, shows that the proportionate pack in any other four years, since canning operations began in this Province, fails to give similar results. What then, is the cause of such a large increase during the past four years? It is, I claim, solely attributable to artificial stocking and to better protective regulations. To prove this, I subjoin a table showing quantity of salmon fry distributed since the hatchery has been put in operation.

Salmon fry distributed from the Fraser River hatchery:—

| | |
|-----------|-----------|
| 1885..... | 1,800,000 |
| 1886..... | 2,625,000 |
| 1887..... | 4,414,000 |
| 1888..... | 5,807,000 |
| 1889 .. | 4,419,500 |

The above schedule shows that the first fry were put in the Fraser River during the spring of 1885, and as 1887 was looked to by the canners as a probable poor year, it turned out, to their great surprise, a good one. Therefore, from the experience which I have gained on this coast, as well as on the Atlantic, I contend that the increase in the run of fish in 1887 is principally due to the output of fry from the hatchery in 1885. My views in this respect are borne out by Mr. Livingstone, who established and operated the Macleod River hatchery in the United States. He

affirms that a portion of the Pacific salmon will return in three years to its native streams. It is thus evident that since 1887, the constant increase in the Fraser River pack is largely due to artificial fish breeding. I must therefore again urge upon the Department the necessity of establishing a hatchery with a capacity for hatching 25,000,000 eggs, in order to maintain an industry having an annual commercial value of \$1,500,000 for the district of New Westminster alone, besides the surplus that feed one-third of the Indian population of this Province.

The letters published in last year's report from the various canners prove the evident success of the hatchery; but among these is one from Mr. D. J. Munn, who inclines to the belief that the "Quinnat" salmon takes longer to mature than the "Saw-quai." The year just passed, has clearly proved that in no other corresponding year were either "Quinnat" or "Saw-quai" so plentiful. The canners have reaped a rich harvest during the last four years. If their own statements in this respect can be relied upon, each cannery made from \$15,000 to \$75,000 per season; still, with all these advantages, they do not appear satisfied, because the regulations framed by the Department did not allow them to fish just as they wished, regardless of future results.

While trying to explain my various reports, the extent and importance of this industry, and pointing out the decline in the salmon fisheries of the Columbia, Sacramento and other large rivers in the adjoining States as the signal for action, the Minister decided, upon a request from the canners, whose views did not coincide with mine, to send some one direct from the Department to visit the Province and enquire fully into the matter. Mr. Samuel Wilmot, Superintendent of Fish Culture for the Dominion, whose report I presume will be published, was the officer chosen for such purpose. The Fraser River canners, finding that his views did not coincide with theirs, published a letter in the *Victoria Colonist*, under the signature of Mr. D. J. Munn, charging the Government, Mr. Wilmot and myself with inexperience and want of knowledge. In a leading article, the *Colonist* set forth Mr. Munn as a representative canner—he, a young man who came from Prince Edward Island about six years ago, who, I venture to say, never visited the spawning beds of the salmon in this Province, and whose knowledge of salmon in Prince Edward Island, one must admit, would be limited.

From the most interesting reports of the Fish Commissioners for the States of Oregon and Washington I glean the following information: The pack at Mr. R. D. Hume's cannery on the Rogue River was 24,000 cases. In Mr. Hume's letter, published in my report of last year, it is said that when he first commenced operations in 1877 he had great trouble in packing 3,500 cases. Since the establishment of the hatchery, the pack has increased every year.

The Columbia River pack amounted to 499,000 cases this year, an increase of 70,000 cases over that of last year. This, the Commissioners credit to artificial stocking from the Clackamas Hatchery, during the spring of 1887.

The Alaska pack amounted to 650,000 cases, a shortage of 35,000 cases, which is attributed to over-fishing, want of protection and no hatchery.

A pamphlet printed by the Fishermen's Protective Union of Columbia River gives a full description of the fishing done and appliances used on that stream, as follows:—

"During the past twenty-four years, there were canned and put up in tins about 27,000,000 salmon; a number so vast that the mind is hardly able to grasp its enormous magnitude. The product of these fish has been 8,904,134 cases of tinned salmon or 427,398,440 cans, the weight of which would be equal to 330,000 tons, and to carry the same would require 29,280 railroad freight cars or 1,484 trains of 20 cars each; the whole length of which would be 250½ miles. It is difficult to comprehend the enormous quantity here set forth.

"The total tonnage of all the materials used during the past twenty-four years (including coal and wood), has been no less than 740,000 tons; the tonnage of materials and the finished product amounted in the aggregate to the vast sum of 1,070,000 tons.

"Such are the results produced by this industry, which the State has neglected to protect. Such is the past record of this great interest, and here naturally recurs the question: What will its future be? To this we answer: that if the States of Oregon and Washington enact proper laws for the protection of the young fish; and prohibit the murderous fish-wheels from continuing their work of destruction and desolation, and also make proper provision and appropriations for one or more hatcheries, of such capacity as will insure the re-stocking of the river—say, with the means of hatching out annually, 30,000,000 fry or small fish—then, indeed, we may venture to predict what the future will be. If these methods are adopted, it is safe to say that in less than seven years from date, the Columbia River salmon fisheries will be able to supply the world with salmon, both fresh and canned. The whole production of canned salmon of the world averages about 1,200,000 cases per annum, all of which can be easily obtained from the Columbia if, as above said, proper legislation is enacted for the preservation of the fishery. To obtain 1,500,000 cases of salmon, or about 73,000,000 pounds of canned fish, we would need about 4,800,000 salmon, all of which can be gotten from the waters of the river and estuary, subject to the conditions and legislation above described. And again, with such a large amount of fish propagated, the article will naturally be produced cheaper than to-day, and thus can be made a cheap and wholesome, every day article of diet, if the Legislatures of the States of Oregon and Washington, respectively, will rise equal to the occasion, and preserve to coming generations this magnificent industry. As for us and our association, we mean to do our part to arouse the now dormant opinion of the States of Oregon and Washington to a proper realization of the magnitude of the fisheries, and to insist upon proper legislative protection to the fish and the fisheries. There are no less than 10,000 persons who depend upon the fisheries for their livelihood, not to mention the vast numbers who are interested indirectly; and why should the interests of a few monied men have more weight in the halls of legislation than the voices and interests of thousands of fishermen?

"The Government of the United States has done its share in protecting and preserving the Oregon and Washington salmon fisheries, and we confidently expect the latter States to do the same. We invoke the aid and assistance of every public spirited citizen of these two States, and believe that intelligent public opinion will indorse our attempts to create a sentiment in favor of restoring, fostering and enhancing the magnificent salmon interest of the great Pacific North West.

"The preservation of our fisheries is a subject of paramount importance. To the statesman and to the political economist there is no subject of greater moment than how to obtain a proper supply of food for the nations; and surely, an enlightened policy ought to show to our local Legislatures the need of preserving and, if possible, increasing the natural food supply. Year by year, the area available for cattle farming becomes less and less, and meat is steadily increasing in price, and consequently getting to be more of a luxury, especially in our large cities and populous States; but here is the ocean farm, with its untold millions of tons of a good and healthy article of diet, which needs no cultivating, yielding its great harvest, unaffected by droughts, summer's heat or winter's blasts.

"Surely" it is high time that protection was extended to this species of farming—i.e., in the only way such protection can be given, namely, doing away with all injuries appliances for taking the fish, and making it a felony to have young salmon in the markets, or to capture or kill the same.

"But few persons have any idea of the magnitude of the salmon fisheries of the Pacific coast States and the territory of Alaska. From the latest dates available, we learn that there is a total of sixty-two salmon canneries, excluding thirty canneries located in British Columbia. Of the former, twenty-four establishments are located on the Columbia River, and on the Oregon and Washington sides respectively; ten are located at various points along the Oregon coast; seven at various points and places in the new State of Washington; nine in California, and thirty-six in the territory of Alaska. Here is an industry which has been wholly developed to its present great proportions within less than a quarter of a century, the capital of

which to-day exceeds \$5,000,000, and gives employment to over 15,000 persons during the canning season. But for this great industry, over 7,000,000 pounds of salmon which have been canned and consumed by the world would have been lost to the great army of consumers the world over. Think of it! this single food-producing industry has, in less than twenty five years, added 760,000,000 pounds, or 380,000 tons, to the world's food supply. What has been done in such a comparatively short period can be done again; and the result ought to be at least 1,000,000,000 pounds for the next twenty-five years, providing the fish and the fisheries receive the proper legislative care and protection, as formerley out-lined in this pamphlet.

"The preservation of the fisheries of our entire nation ought to demand the most earnest attention of Congress, and when the fisheries receive the legislative recognition and protection so long deferred and so much desired we shall have the Atlantic and the Pacific coasts of our country, and every estuary, white with the sails of innumerable fishing craft. Then, there will be no trouble about getting seamen to man our national vessels, and the days of our dependence upon foreign seamen will be ended."

SCHEDULE of Salmon Canneries in British Columbia, giving Location and in Cases of 48

| Name of Cannery. | Names of Owners. | 1876. | 1877. | 1878. | 1879. | 1880. |
|--|--|-------|--------|--------|--------|-------|
| <i>Fraser River.</i> | | | | | | |
| Ewen's Cannery | A. Ewen | 3,125 | 8,334 | 13,700 | 8,380 | 6,191 |
| Garry Point | C. G. Hobson and others | | | | | |
| British American Packing Co. (Limited) | B. Young and others | | | | | |
| Wellington Packing Co. | T. Ladner and others | | | | | 4,333 |
| Richmond Cannery | J. H. Todd & Son. | | | | | |
| Beaver do | J. H. Todd & Son. | | | | | |
| Britannia do | Duncan, Batchelor and others | | | | | |
| Sea Island do | D. J. Munn and others | | | | | |
| Bon Accord do | D. J. Munn and others | | | | 6,850 | 9,722 |
| British Columbia Packing Co. | P. Burr and others | | 11,966 | 12,625 | 5,200 | 2,048 |
| Canoe Pass Canning Co. (Ltd.) .. | D. Drysdale and others | | | | | |
| Delta Canning Co. | J. A. Laidlaw and others | | | 16,500 | 11,500 | 9,500 |
| Phoenix Cannery | M. M. English | | 24,000 | 17,166 | 8,813 | 5,061 |
| Harlock Packing Co. | H. E. Harlock and others | | | | | |
| Dominion Cannery | J. A. Laidlaw and others | | | 13,570 | 5,585 | |
| Fraser River Cannery | British Columbia Canning Co. (Limited) | 4,122 | 11,087 | 7,885 | 4,162 | 5,300 |
| Wadham's Cannery | E. A. Wadhams | | | | | |
| <i>Skeena River.</i> | | | | | | |
| Windsor Cannery | British Columbia Canning Co. (Limited) | | | 3,000 | 4,791 | 9,770 |
| Inverness do | Turner, Beeton & Co. | | 3,000 | 5,500 | 5,812 | 9,924 |
| Balmoral do | Cuthbert, & Byrne | | | | | |
| North Pacific Cannery | Carthew and others | | | | | |
| British American Packing Co. | Gus. Holmes and others | | | | | |
| Skeena Packing Co. | R. Cunningham & Son. | | | | | |
| Standard Cannery | J. A. Laidlaw and others | | | | | |
| <i>Naas River.</i> | | | | | | |
| McLellan's Cannery | A. J. McLellan | | | | | |
| Naas River do | British Columbia Canning Co. (Limited) | | | | | |
| Cascade do | J. A. Laidlaw and others | | | | | |
| <i>Rivers Inlet.</i> | | | | | | |
| Rivers Inlet Cannery | British Columbia Canning Co. (Limited) | | | | | |
| Victoria do | British Columbia Canning Co. (Limited) | | | | | |
| Wannock Packing Co. | McDowell and other | | | | | |
| Alert Bay Packing Co. | S. A. Spencer | | | | | |
| Bute Inlet Cannery | C. G. Hobson and others | | | | | |
| Lowe's Inlet Canning Co. | R. Cunningham & Son & Rood | | | | | |
| Price's Salmon Cannery | H. M. Price and others | | | | | |

Names of present Owners and, each Season's Pack since their Establishment,
one lb. pound Cans.

| 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | Totals. |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 18,900 | 20,000 | 10,438 | 9,600 | 23,000 | 15,000 | 23,000 | 10,470 | 33,700 | 28,600 | 232,438 |
| | | | | | | | | 15,106 | 17,570 | 32,676 |
| 17,590 | 15,000 | 4,600 | | 12,000 | 6,000 | 11,000 | 10,000 | 25,000 | 16,000 | 99,600 |
| | 20,478 | 10,055 | 8,780 | 12,500 | 11,250 | 11,500 | 7,200 | 20,100 | 13,000 | 136,786 |
| | 9,600 | 9,200 | 4,952 | 7,850 | 10,127 | 10,150 | 7,804 | 17,170 | 14,380 | 91,233 |
| | | | | | | | | 14,253 | 14,500 | 28,753 |
| | | | | | | | | | 12,753 | 12,753 |
| 21,000 | 15,401 | 9,630 | | | 6,500 | 12,525 | 5,140 | 18,225 | 14,455 | 32,680 |
| 19,987 | 21,500 | 5,250 | | 12,952 | 5,000 | 10,000 | 5,000 | 17,771 | 12,343 | 116,882 |
| | | | | | | | | 21,066 | 13,340 | 145,924 |
| 19,989 | 26,700 | 11,735 | | 21,315 | 7,506 | 10,324 | 6,771 | 14,300 | 11,300 | 25,600 |
| 18,500 | 26,000 | 10,401 | 4,055 | | 10,000 | 9,000 | 4,000 | 22,150 | 13,542 | 177,532 |
| | 7,560 | 6,170 | | | | 6,500 | 4,440 | 20,917 | 14,062 | 171,975 |
| 16,350 | 27,365 | 11,440 | 6,650 | | 7,894 | 10,324 | 6,771 | 15,480 | 10,250 | 50,400 |
| | | | | | | | | 22,150 | 13,542 | 141,641 |
| 10,200 | 9,600 | 4,926 | | | 5,300 | 5,915 | 3,300 | 12,410 | 12,000 | 96,207 |
| | | 11,856 | | | 14,600 | 9,850 | 5,720 | 18,334 | 13,000 | 73,360 |
| 10,000 | 12,385 | 7,304 | 10,546 | | | 12,000 | 12,872 | 8,772 | 12,850 | 104,290 |
| 11,560 | 12,137 | 7,480 | 12,345 | 6,300 | 10,587 | 11,729 | 13,806 | 8,125 | 13,750 | 132,054 |
| | | 4,173 | 7,351 | | | 8,350 | 10,660 | 9,081 | 12,845 | 52,460 |
| | | | | | | | | 9,995 | 15,000 | 24,995 |
| | | 5,200 | 11,297 | | 12,000 | 12,965 | 17,709 | 12,332 | 14,100 | 85,603 |
| | | 7,000 | 12,247 | 6,600 | 15,000 | 13,548 | 15,060 | 10,100 | 12,500 | 92,055 |
| | | | | | | | | | 10,600 | 10,600 |
| | 6,500 | 9,400 | 8,500 | | | | 12,318 | 10,200 | 12,500 | 59,418 |
| | | | | | | | | 5,000 | 5,200 | 10,200 |
| | | | | | | | | 4,600 | 7,000 | 11,600 |
| ... | 5,635 | 10,780 | 11,887 | | 15,000 | 7,023 | 12,000 | 16,700 | 13,500 | 92,525 |
| | | | | | | | | | 10,000 | 10,000 |
| 5,500 | 4,600 | 6,400 | 8,496 | 6,000 | 1,200 | 4,180 | 8,000 | 9,022 | 10,000 | 39,698 |
| | | | 7,000 | | | 4,200 | 5,000 | 7,162 | 7,339 | 54,401 |
| | | | | | | | | | 3,000 | 3,000 |
| | | | | | | | | | 6,000 | 6,000 |
| | | | | | | | | | 3,721 | 3,721 |

SCHEDULE of Salmon Canneries in existence in British Columbia in the Season of 1890.

| Name of Owner. | Name of Cannery. | Where Located. | Year first Operated. | No. of Boats Licensed. | No. of Hands Employed. | Total Pack Cases. |
|--|---|-----------------------|----------------------|------------------------|------------------------|-------------------|
| Fraser River. | | | | 1889. | | |
| M. M. English..... | Phoenix Cannery..... | Lulu Island..... | 1877 | 22 | 290 | 20,917 |
| J. H. Todd & Son | Richmond Cannery..... | do | 1882 | 20 | 175 | 17,170 |
| do | Bearer Cannery..... | do | 1889 | 18 | 205 | 14,253 |
| E. A. Wadhams..... | Wadhams Cannery..... | Ladner's Landing..... | 1883 | 24 | 266 | 18,334 |
| Ben. Young, manager..... | British American Packing Co. (Limited)..... | Canoe Pass | 1882 | 24 | 335 | 25,000 |
| D. Drysdale, manager | Canoe Pass Canning Co. (Limited)..... | do | 1889 | 18 | 245 | 14,300 |
| R. P. Rithet..... | Harlock Cannery..... | Ladner's Landing..... | 1882 | 20 | 166 | 15,480 |
| H. E. Harlock | | | | | | |
| British Columbia Canning Co., of London, Eng..... | Fraser River Cannery..... | Dease Island..... | 1876 | 20 | 229 | 21,056 |
| C. J. Hobson..... | Garry Point Canning Co.. | Lulu Island..... | 1889 | 18 | 240 | 15,106 |
| C. S. Windsor | | | | | | |
| H. O. Bell Irving..... | | | | | | |
| E. Renney | | | | | | |
| W. W. Wells..... | | | | | | |
| E. H. Tophan..... | | | | | | |
| H. W. Tophan..... | British Columbia Packing Co | Annville..... | 1878 | 22 | 185 | 21,056 |
| P. Birrell..... | | | | | | |
| B. Douglas | Britannia Cannery..... | Lulu Island..... | 1890 | 17 | 192 | 12,753 |
| H. Elliott | | | | | | |
| W. A. Duncan..... | Bon Accord Fishing Co.. | Tree Island..... | 1879 | 22 | 240 | 17,771 |
| J. Batchelor..... | | | | | | |
| Eli Harrison | Sea Island Canning Co .. | Sea Island..... | 1889 | 18 | 225 | 18,225 |
| A. Ewen & Co..... | | | | | | |
| do | Wellington Packing Co.... | Canoe Pass..... | 1880 | 24 | 316 | 20,100 |
| R. P. Rithet.. | | | | | | |
| F. Page | Ewen's Cannery | Lion Island | 1876 | 31 | 380 | 33,700 |
| Thos. E. Ladner..... | | | | | | |
| Alex. Ewen | Delta Canning Co..... | Ladner's Landing..... | 1878 | 24 | 320 | 22,150 |
| R. P. Rithet | | | | | | |
| Jas. A. Laidlaw..... | Laidlaw & Oo. | Sopperton | 1881 | 24 | 320 | 22,150 |
| R. P. Rithet..... | | | | | | |
| Jas. A. Laidlaw..... | | | | | | |
| Alert Bay. | | | | | | |
| S. A. Spencer | Alert Bay Packing Co.... | Malcolm Island... | 1881 | S. 2 | 71 | 7,162 |
| Bute Inlet. | | | | | | |
| C. G. Hobson | Bute Inlet Cannery..... | Bute Inlet..... | 1890 | { GN 15 S. 1 } | | 3,000 |
| C. S. Windsor | | | | | | |
| Skeena River. | | | | | | |
| British Columbia Canning Co. (Ld.) of London, Eng..... | Windsor Cannery..... | Aberdeen | 1878 | 40 | 199 | 8,772 |
| H. C. Beeton..... | Inverness do | Inverness | 1875 | 40 | 225 | 8,125 |
| J. H. Turner..... | Balmoral do | Balmoral..... | 1886 | 40 | 225 | 9,081 |
| R. S. Byrnes..... | | | | | | |
| M. Cuthbert..... | North Pacific Canning Co. (Limited)..... | Inverness | 1889 | 40 | 225 | 9,995 |
| John Mohrer | | | | | | |
| A. R. Johnston..... | British American Packing Co. (Limited)..... | Port Essington.... | 1883 | 40 | 225 | 12,337 |
| J. E. Jinkins..... | | | | | | |
| J. A. Carthew..... | Skeena Packing Co..... | do | 1883 | 40 | 225 | 10,100 |
| A. G. McCandless | | | | | | |
| Gus. Holmes, manager | | | | | | |
| R. Cunningham & Son... | | | | | | |

SCHEDULE of Salmon Canneries in existence in British Columbia, &c.—Con.

| Name of Owner. | Name of Cannery. | Where Located. | Year first oper- ated. | No. of Boats Li- censed. | No. of Hands Employed. | Total Pack Cases. |
|--|--|---------------------------------|---------------------------|-----------------------------|---------------------------|----------------------|
| Skeena River—Con. | | | | 1889. | | |
| R. P. Rithet Jas. A. Laidlaw John Irving..... | Standard Cannery | | 1890 | 29 | 110 | 10,600 |
| | | | | | | |
| | | | | | | |
| Low's Inlet. | | | | | | |
| R. Cunningham & Son John Rood..... | Low's Inlet Canning Co... | Low's Inlet. | 1890 | S. 2 | 113 | 6,000 |
| | | | | | | |
| | | | | | | |
| Smith's Inlet. | | | | | | |
| R. P. Rithet.. Jas. A. Laidlaw | Quashella Packing Co..... | Smith's Inlet | 1883 | S. 1 | 12 | ..... |
| | | | | | | |
| | | | | | | |
| River's Inlet. | | | | | | |
| British Columbia Canning Co. (Ld.) of London, Eng.. | River's Inlet Cannery | Head of River's Inlet..... | 1882 | 40 | 204 | 16,700 |
| do do | Victoria do | Mouth of Wannock River..... | 1882 | 40 | 132 | 10,000 |
| A. McNeill W. McDowell S. McDowell..... | Wannock Packing Co..... | Midway of River's Inlet..... | 1884 | 30 | 185 | 9,022 |
| | | | | | | |
| | | | | | | |
| Naas River. | | | | | | |
| A. J. McLellan. | McLellan's Cannery. | Naas Harbour | 1888 | 30 | 200 | 10,200 |
| British Columbia Canning Co. (Ld.) of London, Eng.. | Naas River do | do | 1881 | 34 | 193 | 5,000 |
| R. P. Rithet.. Jas. A. Laidlaw D. R. Harris M. Strouse..... | Cascade do | Echo Cove..... | 1889 | 30 | 67 | 4,600 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Gardner's Inlet. | | | | | | |
| Archibald Coats H. M. Price..... P. Coats W. Coats | Price's Salmon Canning and Preserving Co | Gardiner's Inlet... | 1890 | 25 | 88 | 3,721 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

HALIBUT.

A slight increase in noticeable over the yield of last year, owing principally to the organization of a fishing company, which made several trips to the northern end of Vancouver's Island with a small steamer, generally succeeding in getting full fares, which were disposed of principally in the local markets of Vancouver and Westminster; some being shipped east of the mountains. The Victoria and Puget Sound markets were principally supplied from the Cape Flattery banks. It is expected that this fishery will develop into large proportions during the next few years.

SKIL.

The trade in this fish shows a decrease of 786 barrels. The cause of this decline is due to the unsuccessful attempts by merchants to find markets for those caught in 1889. This may seem strange; for once a purchaser has tried this fish he wants more, and with a little more push on the part of our merchants, I see no reason why

skil could not be introduced in the American markets to replace mackerel which is now largely imported from England. From recent conversation with Mr. Lundberg, I learn that the skil market is looking brighter, and there is yet a chance of a good trade being done.

OOLACHANS.

The returns of these fish show a decline in fresh, salted and smoked, due to comparative failure in the fishery on the Fraser River, and a light run on the Naas. As steamboat traffic on the Fraser increases, the number of fish seems to diminish, and it is seldom now that the supply equals the demand. On the Naas, the wanton waste previously reported still continues, and in order to check the evil, an officer will have to be stationed at that point, about the time when the ice disappears from the river ; as it is mostly through the ice that the Indians do their fishing.

SHAD.

No information reached me of any of these fish having been caught in the Fraser River, nor do I know of any being taken by seine fishermen in the vicinity of Victoria ; but I presume, as in other years, scattering ones were caught.

The Fish Commissioners for the States of Washington and Oregon report about 50,000 lbs. being taken this season in the Columbia River, although no regular fishery was carried on for them. These fish were caught in the salmon traps of Baker's Bay, and are the result of fry planted there by the Fish Commissioners, a few years ago.

It is important that the Department should put a few hundred thousand shad fry in the Fraser River, as these fish are admirably adapted for these waters ; and with present railway communication from New Westminster direct to Portland, the ova or fry could be had through the courtesy of the Fish Commissioners and conveyed direct here by rail. Shad is a rapid breeder, depositing its eggs on sandy bottoms.

SMELTS.

The catch of this fish has again doubled that of last season. This may be accounted for by the failure of the "Ooláchan" run. The largest portion of the supply taken is used in local markets, some being shipped to the cities of Puget Sound.

HERRING.

The supply of this fish nearly doubled that of last year, there being a better local demand for them, and a few being shipped to the prairie towns. Very few were salted, owing to the poor quality of the fish in the southern portion of this Province.

STURGEON.

The increase in the catch of these fish over last season is not large. They were all caught, as usual, by salmon nets and set line. There is no regular fishery for them. Most are consumed in local markets, a few being shipped east as far as Winnipeg.

The Fish Commissioners for Columbia River state that last year, there were caught and shipped 3,660,000 lbs. of Sturgeon, 4,725 lbs. of caviar, the total value amounting to \$140,595.75. There is no reason why the same quantity of fish could not be taken from the Fraser River and its lakes.

MARINE FURS.

The value of the marine fur products is \$510,111, being an increase of \$157,661 over the past year, due to the following causes : An advance of \$1 per skin in the price of fur seals, an increase of 11,181 skins in the catch, and an increase of 3,200 in the catch of hair seals.

I append a schedule, showing the detailed catch of the sealing fleet for the season of 1890 :—

RETURN showing the Number of Vessels, Boats, Canoes and Men engaged in the Marine Fur Fishery with Products and Values, for the Season of 1890.

| Name of Vessel. | Name of Owner. | Tonnage. | Value of Vessel. | No. of Boats. | Value of Boats. | No. of Canoes. | Value of Canoes. | No. of Men. | No. of Spring Catch. | No. of Sand Point Catch. | No. of Behring Sea Catch. | Total No. | Total Value. |
|---|------------------|----------|------------------|---------------|-----------------|----------------|------------------|-------------|----------------------|--------------------------|---------------------------|-----------|--------------|
| C. H. Tupper | Walker & Co. | 99 | 13,000 | 7 | 700 | | \$ | 23 | 262 | 571 | 796 | 1,367 | 15,037 |
| Viva | Came & Munzie. | 92 | 12,000 | 6 | 600 | | | 23 | 122 | 486 | 2,015 | 2,713 | 29,843 |
| Lily | W. Boons | 69 | 8,500 | 1 | 100 | 8 | 400 | 25 | 122 | | 500 | 622 | 6,842 |
| Ariel | S. W. Bukman | 90 | 9,000 | 1 | 100 | 11 | 500 | 28 | 220 | 349 | 1,137 | 1,706 | 18,766 |
| Sea Lion | S. Collins | 50 | 7,000 | 5 | 500 | | | 18 | 254 | 817 | 774 | 1,845 | 20,285 |
| Mary Taylor | Came & Munzie. | 42 | 8,000 | 1 | 100 | 10 | 500 | 104 | 302 | 703 | 592 | 998 | 10,978 |
| Annie C. Moore | Hackett & Co. | 113 | 15,600 | 7 | 700 | | | 22 | 90 | 563 | 630 | 1,423 | 15,658 |
| Walter L. Rich. | Cameron & Munro. | 79 | 7,000 | 6 | 600 | | | 20 | 122 | 563 | 633 | 1,317 | 14,487 |
| E. B. Marvin | Marvin & Co. | 117 | 12,000 | 7 | 700 | | | 26 | 368 | 878 | 918 | 2,164 | 23,804 |
| Kate | Chas. Spring. | 58 | 4,000 | 5 | 500 | 11 | 500 | 27 | 156 | 511 | 230 | 897 | 9,867 |
| Pioneer | Came & Munzie. | 66 | 10,000 | 5 | 500 | | | 20 | 235 | 716 | 984 | 1,935 | 21,235 |
| Favorite | Chas. Spring | 64 | 8,000 | | | 13 | 500 | 32 | 356 | 981 | 1,116 | 2,453 | 26,983 |
| Ocean Bell | R. Hall & Co. | 83 | 10,000 | 7 | 700 | | | 23 | | 946 | 450 | 1,426 | 15,686 |
| Theresa | Babington & Co. | 63 | 10,000 | 7 | 700 | 18 | 900 | 23 | 175 | 569 | 745 | 1,194 | 13,134 |
| Sapphire | Marvin & Co. | 124 | 14,000 | 1 | 100 | | | 42 | 119 | 1,378 | 745 | 2,242 | 24,662 |
| Triumph | do | 98 | 14,000 | 6 | 725 | | | 23 | 182 | 1,018 | 473 | 1,673 | 18,403 |
| Maggie Mac | Dodd & Co. | 70 | 10,000 | 7 | 700 | | | 20 | | 1,200 | 752 | 1,962 | 21,472 |
| Juanita | J. Kinsman | 49 | 6,000 | 1 | 100 | 9 | 450 | 22 | 97 | 311 | 770 | 1,178 | 12,958 |
| W. P. Sayward | Lang & Moss | 59 | 8,000 | 1 | 100 | 8 | 400 | 23 | 154 | 339 | 459 | 952 | 10,472 |
| Catherine | J. L. Penny | 81 | 5,500 | 1 | 100 | 10 | 500 | 23 | 380 | 345 | 945 | 1,670 | 18,370 |
| Beatrice | W. Grant | 65 | 7,000 | | | 12 | 600 | 29 | 220 | 710 | 854 | 1,780 | 19,624 |
| Mary Ellen | M. Moss | 73 | 7,250 | 7 | 700 | | | 23 | 115 | 951 | 1,066 | 1,726 | 11,726 |
| Penelope | do | 69 | 10,000 | 5 | 500 | | | 22 | 148 | 578 | 445 | 1,171 | 12,881 |
| Minnie | V. Jacobson | 46 | 8,000 | 1 | 100 | 8 | 400 | 21 | 300 | 764 | 1,467 | 2,531 | 27,841 |
| Aurora | T. Harold | 41 | 8,000 | 1 | 100 | 10 | 500 | 24 | 165 | 797 | | 962 | 10,582 |
| Wanderer | H. Paxton & Co. | 32 | 5,000 | 1 | 100 | 8 | 400 | 19 | 82 | | | 82 | 902 |
| Venture | D. Urquhardt | 48 | 5,000 | 4 | 400 | | | 15 | 94 | | | 94 | 1,034 |
| Mountain Chief | Nawasane. | 23 | 1,000 | | | 5 | 200 | 12 | 60 | | | 60 | 660 |
| Letitia | P. Quachynne. | 28 | 1,000 | | | 4 | 160 | 10 | 70 | | | 70 | 770 |
| From River Inlet to Skeena River. | | | | | | | | | | | | 200 | 2,314 |
| Estimate of Fur Seals purchased from Indians and others | | | | | | | | | | | | 5,000 | 53,000 |
| Estimate of Hair Seals. | | | | | | | | | | | | 10,200 | 7,650 |
| do Sea Otter | | | | | | | | | | | | 102 | 10,200 |
| | | 2,042 | 248,250 | 107 | 10,825 | 145 | 6,910 | 678 | 4,650 | 16,782 | 18,165 | 54,853 | 510,111 |

RETURN showing Fur Seals caught by Foreign Vessels and disposed of in Victoria, B.C.

| Name of Vessel. | Name of Owner. | No. of Sand Point Catch. | No. of Behring Sea Catch. | Total No. |
|---------------------|----------------|--------------------------|---------------------------|-----------|
| Mattie T. Dyre..... | American..... | 74 | | 74 |
| San Diego..... | do..... | | 579 | 579 |
| Geo. R. White..... | do..... | | 400 | 400 |
| Harry Davis..... | do..... | | 1,500 | 1,500 |
| Venture..... | do..... | | 564 | 564 |
| Adele..... | German..... | 220 | 431 | 651 |
| | | 294 | 3,474 | 3,768 |

It will be noticed that the names of vessels and owners are given together, with the tonnage, as in previous reports, while the number of boats and canoes is kept separate and the total values given. The value of vessels comprises the fit out with firearms, ammunition, &c., when prepared for a hunting voyage.

The catch of seals has been divided into three classes, viz.:—Spring catch, Sand Point catch, and Behring Sea catch. The spring catch comprises the seals captured after the vessels have left Victoria, say 1st February, hunting as far south as Lower California; Sand Point catch includes the skins taken off the west coast of Vancouver Island, and the Behring Sea catch those killed in Behring Sea proper. It will be noticed that the two first named kinds exceeds the Behring Sea catch by 3,217 skins, and, as is usually the case, I learn from dealers that the percentage of grey pups is larger in the Sand Point catch than in that of the Behring Sea.

On comparing the schedule with that of 1889, it will be seen that the sealing fleet was increased by six vessels; and, from present outlook, there will likely be a much larger increase during the coming season. I understand that there have already been purchased three American, a Japanese and five Nova Scotia schooners, for this trade. The names of the Nova Scotia vessels now on their way, are:—"Union," "Geneva," "Maud S," "Otto" and "Annie M. Paint," besides a steamer recently fitted up for the same purpose.

I was informed that the seals in Behring Sea changed their feeding grounds last season from the south-west to the north-east of St. George and St. Paul's Islands; the large catches being made at the north east end. The cause of this change is said to be on account of sub-marine volcanic eruptions, which drove away the feed from the banks. I understand that Customs Collector Milne, of Victoria, has given a detailed report on this fishery, and there is no need of my dwelling further on it. As I am situated here, and so seldom able to visit Victoria, I find it extremely difficult to get reliable information.

DOG FISH.

These fish are still found in abundance. The chief purpose for which they are used is to make oil, the supply of which increased this season by 24,884 gallons over 1889. This industry is capable of large development. Not only is there an inexhaustible supply, but there is good demand for the oil

WHALES.

No attempts have been yet made by our people to develop this industry which is capable of vast extension.

TROUT.

The demand for these fish is still on the increase—so much so, that the supply is insufficient.

MIXED FISH.

These consist of sardines, anchovies, whittings, flounders, soles, skates and various other small fish, of which, on the whole, there was an increase, due to a larger trade by an increased population.

SHRIMPS AND PRAWNS.

It is difficult to obtain reliable data of the yield of these fish, as they are principally caught by Italians, from whom very little, or no, information can be had.

LOBSTERS.

Fish Commissioner Crawford, for the State of Washington, states in his report that a number of young lobsters were seen by fishermen in Port Townsend and Shoal Water Bays. Two gentlemen, who can be relied upon, reported having taken specimens at Hoquim River and Peaterson's Point. These are said to be the offspring of the lobsters planted by United States Fish Commissioners about two years ago. I hope that when the Department lobster hatchery is in working order, it will be possible to send a good supply of the young ones to this coast.

OYSTERS.

The supply has increased by about 500 sacks over that of 1889. A sack contains 2 bushels. The supply is still very short of the demand. This is becoming more apparent every season, as the population increases, which causes the importation of large quantities of oysters from the Sound bed.

Fish Commissioner Crawford reports that 345 acres are under artificial cultivation in the State of Washington, with an average output of 350 sacks per week during eight weeks in the year, giving employment to about 125 persons, and worth to the State \$21,888. It is well to know what our neighbours are doing, that we may profit by their experience. The regulations adopted by the Department for the cultivation of oysters is a move in the right direction, which will be the means of restoring a number of depleted beds to a state of productiveness.

CLAMS AND MUSSELS.

The consumption of these bivalves has increased; the supply of clams being abundant and of good quality. I see by the Oregon Commissioner's reports that a new and better variety of the eastern clam was introduced in their waters, which has thrived splendidly and is favourably accepted. When our own system of protection is in working order, it would be well to have a few beds stocked with this variety of clams.

PROTECTION.

The fisheries protection service on the Fraser River was much more efficient than in 1889. The steam launch rendered good service, and I do not think there were so many who fished without a license as previously, considering the large run of fish in the river.

The Naas River was guarded by Mr. McNeish, whose report is annexed, and who states that the regulations were well enforced.

The Skeena was under charge of Mr. M. K. Morrison, whose report is also appended; but owing to the lateness of his appointment, fishing had commenced before he became fairly established. He reports that owing to the exceedingly large run of fish, the limit of boats was not exceeded.

Guardian Barkeley, Courtney River, reports that the regulations were strictly observed and that the lakes were carefully guarded against the use of explosives by

miners; also, that the run of salmon in Courtney and Campbell Rivers was good, and that parties intend building canneries at both places. He further states that the Indians caught a large supply of fish for their own use.

Guardian Malpass has recently been appointed to replace *Guardian Good*. He appears active, and reports the regulations being well enforced.

Guardian Lomas sends no report on the Cowichan, but from his private letters, I infer that a fair supply of fish ascended the Cowichan River and that a number were caught with the fly in Cowichan Lake. The reports of Guardians *Green*, *Morrison*, *McNeish* and *Roxburgh* are appended.

I trust that the proposed system of protection, when properly enforced, will have the effect of keeping our numerous rivers and lakes in a much better state of preservation, and enable those who are now employed in the business to continue it profitably, while learning something which may be of use to those who may come after them.

I have the honour to be, Sir,

Your obedient servant,

THOS. MOWAT,

Inspector of Fisheries for British Columbia.

REPORTS OF THE DIFFERENT FISHERY GUARDIANS TO THE INSPECTOR OF FISHERIES IN BRITISH COLUMBIA.

LOWER FRASER RIVER.

C. F. Green, Fishery Guardian.

I beg to state that owing to the short time I was employed as Fishery Guardian for this district, I am unable to make any report, except on the "Saw-Quai" run of salmon.

When I received my appointment as guardian, on 25th July, I found the fishing in full swing, and it continued so till the latter end of August, thus enabling the canneries, in most cases, to complete their pack, although they did not pack as large a number of cases as they did the previous year, owing, I believe, to the dull state of the salmon market.

I consider that the weekly close time this year was better suited than during the previous year, as it enabled the guardians to see that the boats started out during daylight, and the fishermen could see the flags hoisted at different points to denote when it was 6 p.m. Sunday. I think if fixed later in the evening it will be impossible to stop fishing during close time, as it will be dark so long before the time expires, and fishermen are bound to take any advantage they can. I may state that I always found the cannery men trying their best to carry out the fishery regulations and to assist me in enforcing them.

RIVERS INLET.

William Roxburgh, Fishery Guardian.

In accordance with instructions received, I proceeded from Westminster to Rivers Inlet, and arrived there on 11th July. The fish had been running a week previous to my arrival, although not plentifully, and the canneries were all in operation.

Owing to scarcity of hands, the usual number of Indians not having come round, and Chinamen or white men not being obtainable, the canneries could not at any time this season fish all the boats for which they had taken out licenses, but the fish were so abundant and the run continued so long, that they were enabled to complete their pack.

The cannery proprietors, by taking the fishermen from the boats and employing them in the canneries when the catch of fish was in excess of the canning capacity, avoided all waste of fish, and the weather keeping cool, there were none destroyed after capture.

The fish being easily obtainable, there were no attempts or instances of trespass, and the canneries, during the season, worked quite in accord with the Act and regulations.

The offal at the Viceroy Cannery, at the mouth of the O-wee-kay-no River, should be dumped into a scow and carried into deep water, as the beach is flat and the sea throws it up and leaves it there. At the other canneries it washes into deep water and is not so offensive.

SKEENA RIVER.

M. K. Morrison, Fishery Guardian.

I am pleased to report that this season has been the best ever known on the Skeena River for salmon. Twenty fishing boats were sufficient to keep each cannery packing from 500 to 700 cases per day. Every Saturday, the canneries were filled up with salmon; all were forced to keep the boats off, both on Saturday and Sunday, after the first two weeks. The Standard Cannery put up the last 2,000 cases with only four boats fishing.

Owing to the wreck of the "Sardonix" the regulations and forms of applications did not get to the Skeena before July, two weeks after the fishing began. Indians had been to me and gave me the license fee, asking me to get them a license as soon as I could. I sent in their applications as soon as possible.

Fishermen and cannery men are well pleased with this season's fishing.

NAAS RIVER.

Thos. McNeish, Fishery Guardian.

I beg to submit the following report as Fishery Guardian on Naas River for the past season.

I arrived at Naas Harbour on 4th July. I regret to state that the details of my report are somewhat meagre, owing to my being unable to get about for the want of a boat, none having been supplied to me. Had it not been for the kindness of the cannery managers, allowing me to travel on their steamers, I would not have been able to get around in rough weather at all.

Fishing commenced on the 4th June, one month before I arrived. The season's catch was good, but more salmon would have been put up had it been possible to obtain additional help. I am of the opinion that, in view of the change in the regulations having reference to the time of applications for licenses, which have to be in before the 1st of May, there should be a man on the river by the 15th of April, as there are a large number of Indian fishermen who cannot read the regulations, and the timely appearance of an officer would prevent any unpleasantness which might otherwise arise. I would suggest that a change be made in the weekly close time, because should low water slack be at 5 a.m. Monday morning, and the boats go out at 6 a.m., before the nets are thrown, the tide is running so strong that they have to haul up and come ashore again, and it is 5 p.m. before they again go out on the next low water. I would suggest that the weekly close time regulations be changed so as to read: "Fishing shall be discontinued from slack water nearest noon Saturday to slack water nearest 6 a.m. on the following Monday." The reason I suggest this change is, that the present regulations entail considerable loss and inconvenience to the fishermen, by reason of the very short time during which fishing can be prosecuted on Mondays, because, on account of the rapid current and strong tide, it is only possible to fish high and low water slack.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Number of Men engaged in the Fisheries, Quantity and Value of Fishing Materials, Kinds and Quantities of Fish, &c., in the Province of British Columbia, for the Year 1890.

| LOCALITY. | VESSELS AND BOATS EMPLOYED. | | | | | | FISHING MATERIALS. | | | | | | KINDS OF FISH. | | | | | |
|---|-----------------------------|----------|--------|--------|------|--------|--------------------|----------|---------|----------|--------------|-------|---------------------|----------------------|------------------|----------------|----------|---------|
| | Vessels. | | | Boats. | | | Gill Nets. | | Seines. | | Trawl Lines. | | Salmon, fresh, lbs. | Salmon, smoked, lbs. | Salmon, in cans. | Sturgeon, lbs. | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | No. | | | | | Value. | |
| | | | | | | | | | | | | | | | | | | |
| Fraser River and South to American Boundary | 18 | 323 | 73550 | 48 | 733 | 45425 | 4658 | 147200 | 91812 | 500 | 1500 | 5380 | 525 | 1109 | 1242000 | 11000 | 11742500 | 336000 |
| Fraser River to Howe Sound | 6 | 50 | 10975 | 15 | 18 | 1433 | 28 | 1200 | 975 | 1945 | 1535 | 5380 | 525 | 70 | 261000 | 8300 | 144000 | 60000 |
| Howe Sound to Smith's Inlet | 1 | 15 | 6000 | 3 | 37 | 1650 | 173 | 6250 | 4500 | 350 | 750 | 90 | 240 | 240 | 15000 | 14000 | 14000 | 14000 |
| Smith's Inlet to River's Inlet | 1 | 26 | 6000 | 3 | 104 | 3995 | 404 | 15020 | 12290 | 360 | 1200 | 300 | 280 | 280 | 2915 | 1609000 | 1609000 | 1609000 |
| Rivers Inlet to Skeena River | 7 | 184 | 53000 | 27 | 337 | 13272 | 1305 | 61650 | 45250 | 400 | 2200 | 1000 | 845 | 845 | 90000 | 10000 | 4865520 | 4865520 |
| Skeena River to Alaska Boundary | 2 | 25 | 4500 | 6 | 148 | 5870 | 524 | 28280 | 15815 | 40 | 80 | 1010 | 1100 | 30 | 390 | 4600 | 20000 | 1183600 |
| East Coast of Queen Charlotte Island | 1 | 50 | 4000 | 5 | 25 | 1500 | 53 | 2000 | 2000 | 600 | 900 | 1010 | 1100 | 50 | 500 | 500 | 500 | 500 |
| West Coast of Queen Charlotte Island | 1 | 80 | 18000 | 6 | 15 | 980 | 40 | 800 | 500 | 200 | 250 | 350 | 500 | 500 | 5000 | 352272 | 352272 | 352272 |
| Cape Scott to Comox, V. I. | 1 | 80 | 18000 | 6 | 15 | 980 | 40 | 800 | 500 | 200 | 250 | 350 | 500 | 500 | 5000 | 352272 | 352272 | 352272 |
| Comox to Victoria, V. I. | 45 | 160 | 14800 | 103 | 38 | 5725 | 86 | 1040 | 1000 | 4100 | 6100 | 6000 | 3000 | 70 | 117000 | 9000 | 9000 | 9000 |
| Victoria to San Juan, V. I. | 2 | 40 | 1000 | 4 | 5 | 500 | 15 | 300 | 600 | 500 | 600 | 2000 | 800 | 800 | 1000 | 1000 | 1000 | 1000 |
| San Juan to Berkeley Sound, V. I. | 2 | 40 | 1000 | 4 | 5 | 500 | 15 | 300 | 600 | 500 | 600 | 2000 | 800 | 800 | 1000 | 1000 | 1000 | 1000 |
| Berkeley Sound to Cape Scott, V. I. | 3 | 20 | 400 | 10 | 6 | 800 | 12 | 300 | 300 | 300 | 350 | 900 | 300 | 300 | 1000 | 1000 | 1000 | 1000 |
| Fur Seal Fleet from Victoria | 29 | 2042 | 248250 | 678 | 252 | 17738 | | | | | | | | | | | | |
| Sea Otter, Hair and Fur Seals purchased from Indians and others | | | | | | | | | | | | | | | | | | |
| Totals | 115 | 3015 | 440475 | 908 | 1723 | 99688 | 7315 | 263440 | 174142 | 10506 | 31866 | 17075 | 7115 | 2894 | 1739015 | 58390 | 19895992 | 396000 |

RETURN showing the Number, Tonnage and Value of Vessels and Boats, &c.—Province of British Columbia—Continued.

| LOCALITY. | KINDS OF FISH. | | | | | | | | | | FISH PRODUCTS. | | | | VALUE. | | |
|--|----------------|---------------|-----------------------|-----------------------------|------------------------|-------------------------|-------------|------------------------------|--------------|----------------|----------------|----------------|---------------------|----------------------|--------|----------------------|---------------------|
| | Hallibut, lbs. | Herring, lbs. | Herring, smoked, lbs. | Oolachans, salted, barrels. | Oolachans, fresh, lbs. | Oolachans, smoked, lbs. | Trout, lbs. | Assorted or Mixed Fish, lbs. | Smelts, lbs. | Rock Cod, lbs. | Toohqua, lbs. | Skil, barrels. | Fur Seal Skins, No. | Hair Seal Skins, No. | | Sea Otter Skins, No. | Fish Oils, gallons. |
| Fraser River and South to American Boundary | 37500 | 87000 | 11000 | 20 | 4500 | 500 | 25750 | 3825 | 5750 | 2750 | 20000 | | | | | | 1,574,875 75 |
| Fraser River to Howe Sound | 239100 | 84500 | | 3 | 6000 | | 21500 | 81500 | 80000 | 97500 | 102000 | 90 | | | | | 72,550 00 |
| Howe Sound to Smith's Inlet | | | | | | | | | | | | | | | | 2214 | 22,287 00 |
| Smith's Inlet to River's Inlet | | | | | | | | | | | | | | | | 250 | 195,676 50 |
| 50 Rivers Inlet to Skeena River | | | | | | | | | | | | 25 | 204 | 2050 | | 1000 | 607,893 90 |
| Skeena River to Alaska Boundary | | | | 350 | 1000 | 500 | 150 | | | | | | | 50 | | 5200 | 156,644 50 |
| East Coast of Queen Charlotte Island | 25000 | | 2000 | | | | | 10000 | | | | 25 | | | | 35000 | 20,500 00 |
| West Coast of Queen Charlotte Island | 50000 | | 2000 | | | | | 50000 | | | | 150 | | 100 | 2 | 2000 | 8,475 00 |
| Cape Scott to Comox, V. I. | 4000 | 10000 | | | | | 2000 | 5000 | | 1000 | | | | | | 500 | 44,222 64 |
| Comox to Victoria, V. I. | 263200 | 132000 | 12500 | 5 | 22000 | | 3000 | 249700 | 14500 | 99000 | 185000 | | | | | 12500 | 72,865 00 |
| Victoria to San Juan, V. I. | 10000 | 7000 | | | 4500 | | 500 | 9000 | 500 | 500 | 2000 | | | | | 2000 | 2,955 00 |
| San Juan to Barkley Sound, V. I. | 6000 | 8000 | | | | | | 10000 | | | | | | | | 1500 | 2,050 00 |
| Barkley Sound to Cape Scott, V. I. | 2000 | 1000 | | | | | | 2000 | | | | | | | | 100000 | 50,250 00 |
| Fur Seal Fleet from Victoria | | | | | | | | | | | | | 38547 | | | | 485,017 00 |
| Sea Otter, Hair and Fur Seals purchased from Indians and others | | | | | | | | | | | | | 5000 | 8000 | 100 | | 71,000 00 |
| Totals | 636800 | 328500 | 27500 | 378 | 38000 | 1000 | 52900 | 426025 | 100750 | 200750 | 309000 | 230 | 44751 | 10200 | 102 | 162264 | 3,337,262 29 |
| Oysters, 350 sacks, at \$2, \$7,000 ; Clams, 3,000 sacks, at \$1.75, \$5,250 ; Mussels, 300 sacks, at \$2, \$600 | | | | | | | | | | | | | | | | | 12,850 00 |
| Crabs, 504,800, at 5c, \$25,240 ; Abalones, 3,000 lbs., at 25c, \$750 ; Isinglass, 1,100 lbs., at 30c, \$330 | | | | | | | | | | | | | | | | | 26,320 00 |
| Estimate of Shrimps and Prawns | | | | | | | | | | | | | | | | | 5,000 00 |
| do various kinds of fish consumed in the interior and other parts of the Province | | | | | | | | | | | | | | | | | 100,000 00 |
| Grand Total | | | | | | | | | | | | | | | | | 3,481,432 29 |

**YIELD and Value of the Fisheries of the Province of British Columbia for
for the Year 1890.**

| Kinds of Fish. | | Quantity. | Price. | Value. |
|---|----------------|------------|--------|--------------|
| | | | | \$ cts. |
| Salmon, in cans | Lbs. | 19,895,992 | 0 12 | 2,387,519 04 |
| do fresh | " | 1,739,015 | 0 10 | 173,901 50 |
| do salted | Brls. | 2,994 | 10 00 | 29,940 00 |
| do smoked | Lbs. | 58,300 | 0 20 | 11,660 00 |
| Sturgeon, fresh | " | 396,000 | 0 05 | 19,800 00 |
| Halibut, fresh | " | 636,800 | 0 05 | 31,840 00 |
| Herring, fresh | " | 329,500 | 0 05 | 16,475 00 |
| do smoked | " | 27,500 | 0 20 | 5,500 00 |
| Oolachana, fresh | " | 38,000 | 0 10 | 3,800 00 |
| do smoked | " | 1,000 | 0 20 | 200 00 |
| do salted | Brls. | 378 | 10 00 | 3,780 00 |
| Trout, fresh | Lbs. | 52,900 | 0 10 | 5,290 00 |
| Fish assorted and mixed | " | 426,025 | 0 05 | 21,301 25 |
| Smelts, fresh | " | 100,750 | 0 06 | 6,045 00 |
| Rock Cod | " | 200,750 | 0 05 | 10,037 50 |
| Skill, salted | Brls. | 290 | 12 00 | 3,480 00 |
| Tooshqua, fresh | " | 309,000 | 0 05 | 15,450 00 |
| Fur Seal skins | No. | 44,751 | 11 00 | 492,261 00 |
| Hair do | " | 10,200 | 0 75 | 7,650 00 |
| Sea Otter skins | " | 102 | 100 00 | 10,200 00 |
| Fish oils | Galls. | 162,264 | 0 50 | 81,132 00 |
| Oysters | Sacks. | 3,500 | 2 00 | 7,000 00 |
| Clams | " | 3,000 | 1 75 | 5,250 00 |
| Mussels | " | 300 | 2 00 | 600 00 |
| Crabs | No. | 504,800 | 0 05 | 25,240 00 |
| Abalone | Lbs. | 3,000 | 0 25 | 750 00 |
| Isinglass | " | 1,100 | 0 30 | 330 00 |
| Estimate of shrimps and prawns | | | | 5,000 00 |
| Estimate of fish consumed in the interior of the Province | | | | 100,000 00 |
| Total Value | | | | 3,481,432 29 |
| Estimate consumption by Indian population— | | | | |
| Salmon | \$2,732,500 00 | | | |
| Halibut | 190,000 00 | | | |
| Sturgeon | 260,000 00 | | | |
| Fish oils | 75,000 00 | | | |
| | | | | 3,257,500 00 |
| Grand Total | | | | 6,738,932 29 |

**NUMBER and Value of Vessels, Boats, Nets and Trawls, engaged in the Fisheries, of
British Columbia, during the Season of 1890.**

| Material. | Value. | Total. |
|---|------------|--------------|
| | \$ cts. | \$ cts. |
| 115 Vessels, 3,015 tons..... | 440,475 00 | |
| 1,723 Boats..... | 99,688 00 | |
| 263,440 Fathoms of Gill Net..... | 174,142 00 | |
| 10,505 do Seines..... | 31,865 00 | |
| 17,075 do Dogfish and Halibut Trawls..... | 7,115 00 | 753,285 00 |
| 36 Canneries, complete. | 720,000 00 | |
| 6 Oil Factories..... | 25,000 00 | |
| 2 Freezing Establishments. | 10,000 00 | |
| 6 Salting Stations..... | 2,994 00 | 757,994 00 |
| Grand Total..... | | 1,511,279 00 |
| Sailors and Hunters..... | 908 | |
| Fishermen and Canneryman..... | 7,315 | |
| | 8,223 | |

I have the honour to be, Sir,
Your obedient servant,
THOS. MOWAT,
Inspector of Fisheries.

APPENDIX G.

ONTARIO.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO FOR THE YEAR 1890.

LAKE SUPERIOR DIVISION.

Overseer *W. C. Dobie*, who has charge of that part of Lake Superior extending from Pigeon River to the Slate Islands, reports that the fishing season opened on the 10th May and lasted till the end of December. Although the catch did not quite come up to that of 1889 it exceeds that of 1888, and may be said to have been successful, considering the stormy weather experienced during the month of September, whereby several nets were lost. Pound-net fishing seems to be gaining in favour, and the number of applications for 1891 will undoubtedly exceed those of last season. Mr. Dobie leans towards that mode of fishing, claiming that it is less injurious than gill-net fishing. Pound-nets are usually set nearer shore, and capture only the fish which would not be caught at all were it not for them. In stormy weather, before the fishermen can raise their gill-nets, large numbers of dead fish are found therein, which have to be thrown away, fouling the fishing grounds. There can be no such waste of fish in pound-nets, as they retain fish alive for weeks till taken up. The close season was well observed. The value of fish caught in this division is given at \$121,374.

Overseer *Joseph Wilson's* division comprises the lower portion of Lake Superior, from the Slate Islands extending to Collin's Inlet, in Georgian Bay. Salmon trout were as abundant as usual, but whitefish yielded less in Lake Superior than in the Lake Huron portion of his district. Sturgeon are declining. No improvement can be hoped for so long as these fish are allowed to be caught during the spawning season, and Mr. Wilson urges the adoption of a close time. Fishermen experienced considerable loss of fishing material during the heavy gales which prevailed on Lake Superior in the fall. The close season was well observed by the licensed fishermen, but Indians and half-breeds, it is suspected, carry on illegal night fishing between Algoma Mills and Bruce Mines, and run their fish to Detour.

Guardians *Cameron, Gauthier* and *Strain* performed their duties during the close season to the satisfaction of the Overseer.

It is much to be regretted that nothing has been done by the Provincial Government for the protection of speckled trout in the rivers on the north shore of Lake Superior. Several of those streams were netted and poached during the past season, and large quantities of fine trout were exported to United States markets. The most efficient remedy would be for the Dominion Government to prohibit the exportation of these fish.

A guardian was employed to watch a couple of rivers in the vicinity of Sault Ste. Marie till they were frozen over, and this had a good effect to check netting at night.

The total value of the fisheries was:—In the Lake Superior portion, \$29,339; in Georgian Bay portion, \$32,202—making a total of \$61,541.

MANITOULIN ISLAND DIVISION.

Overseer *John Marks*, of St. Joseph's Island, and *Alex. Brinkman*, of Manitowaning, have charge of the fisheries around this island. The former states the fish

were as abundant as before. There were less boats and tugs employed in the fishery last season from Duck Islands.

Overseer *A. Brinkman* sent no report.

The total value of the fisheries in this districts amounts to \$293,475.

GEORGIAN BAY DIVISION.

Overseer *F. G. M. Fraser*, who has charge of that portion of Georgian Bay extending from Collin's Inlet to Point Marks, reports an increased catch of fish all round. This he attributes to a more vigorous prosecution of the fishing industry. He apprehends the Georgian Bay waters will not be able to stand the annual drain now put upon them. His division alone shows that nearly half a million fathoms of gills-nets were in use last season; each boat averaging over 6,000 fathoms. Gangs of fishermen, with fyke-nets, brought from the United States, carry on extensive illegal fishing. They are protected by fish dealers, who are mostly agents for American firms. Some seizures were made, but it is hard to locate the nets and seize them with this class of poachers. The injurious habit of throwing offal of fish overboard is still indulged in, and must prove disastrous to the whitefish feeding grounds. The recent fishery regulation making the close season for salmon trout from 15th October to the end of November is deemed a wise and needed measure; but there will be a great deal of trouble in enforcing it, unless the close season for whitefish is made the same. The total value of the fisheries in this division amounts to over \$300,000.

Overseer *John Donaldson*, of Collingwood, who has charge of that part of Georgian Bay from Point Marks to Point Boucher, made no report.

Overseer *G. S. Miller*, whose division comprises that part of Georgian Bay extending from Point Boucher to Colpoy's Bay, returns an increased catch of fish, especially in whitefish and salmon trout. Five tugs and thirty-seven boats, manned by over one hundred fishermen, were engaged fishing. The total value of the yield of this division foots up to \$98,733.

Overseer *John Shackelton* whose division extends from Colpoy's Bay to Cape Hurd, made no report. The Department has lately been advised of his death.

LAKE HURON DIVISION.

Overseer *R. H. Murray*, who has charge of that part of Lake Huron extending from Cape Hurd to Southampton, made no report.

Overseer *Hugh McFayden* attends to the Saugeen River. He states that owing to cold weather in the early part of the summer, anglers had poor sport, but that they did better later on. Speckled trout did not seem so abundant as usual. Some parties felt inclined to use nets, and had to be closely watched.

Overseer *H. W. Ball* has charge of that portion of Lake Huron extending from Southampton to Goderich. He reports an increased catch in almost every locality, except at Kincardine, where there was one tug less than last year employed. Much illegal fishing is undoubtedly carried on in this district, either without licenses or by means of undersized nets. Illegally-caught fish are also reported to be shipped during the close season as frozen fish. Were regulations enacted compelling shippers to produce certificates of inspection of fish from authorized officers, it would greatly tend to prevent these illegal practices.

The dam at Maitland Falls, which was carried away, is being replaced by a new one, which bars only half the river, thus giving the fish every facility to ascend.

The total value of the yield of the fisheries of this division amounts to \$52,331, an increase of 25 per cent. over 1889.

Overseer *H. B. Quarry*, of Parkhill, attends to that portion of the coast of Lake Huron extending from Goderich to Blue Point. He reports fishermen as being very reluctant in furnishing him with statements of their catch. Fish, certainly, were more abundant than during the last few years. Were the close season for pickerel to end by the 1st May, it would be more advantageous to the fishermen, as these fish appear to have done spawning by that time. The total yield of the fisheries of this division is valued at \$26,700.

Overseer *J. C. Pollock's* division extends from Blue Point, on Lake Huron, to Baby's Point, on River St. Clair. He reports a scarcity of fish. Some fishermen refused to take out licenses, seeing others fishing without success. Some people ascribe this decline to the heavy traffic done on the river, which drives the fish to deeper water, while others claim it is due to trap-net fishing at both ends of the division. The total catch only amounts to \$7,600.

LAKE AND RIVER ST. CLAIR DIVISION.

Overseer *C. W. Raymond* attends to the upper part of Lake St. Clair. He reports a fair catch of bass, as compared with other years. The balance of the catch is mostly composed of coarse fish. As the ice remains long in Mitchell's Bay it allows of very little fishing before the close season; hence the small yield. No infractions of the fishery laws are reported. An American from Detroit came over to set night-lines in Canadian waters, but left on being ordered to do so.

Overseer *A. Quenneville*, who has charge of the lower part of Lake St. Clair and of the North Thames River, also reports a small catch. This, he attributes to the fact that seiners cannot use their seines before the close season begins.

THAMES RIVER DIVISION.

Overseer *T. McQueen*, whose division extends from the mouth of the Thames River to Lewisville, says, that nineteen out of the twenty-four fishing grounds in his division were in operation last season, employing nearly one hundred men. The principal fish caught are pickerel, pike and coarse fish. The yield ran short of previous years. This is attributed to the floating ice and sunken logs, as well as to a less vigorous prosecution of the fishery. The Overseer is of the opinion that a change took place in the periodical runs of fish, and that the large runs occurred during the close season, which was well observed. The law regarding sawdust is better complied with. Some of the fishermen deserve credit for making strenuous efforts to improve their grounds by removing sunken logs and debris.

Overseer *John Crotty* attends to that portion of the Thames extending from Lewisville to Wardsville. He also reports a shortage in the catch, caused by ice jams and by the floating logs, which destroyed several nets and prevented others from setting. There are no fish-ways in his division. The close season was strictly observed.

Overseer *P. McCann*, who has charge of the upper portion of the Thames River, reports a fair catch, principally of trout, whitefish, herring and pike. Several rumours of spearing were afloat, but the Overseer was unable to secure sufficient evidence to convict. Farmers do not like to lodge complaints against their neighbours. In some places, the river runs very wild, being almost perpendicular, and it is impossible to catch or follow the poachers. Two of the thirteen fish-ways in this district will need repairs in the spring; the others are in good order. The present form of fish-way works satisfactorily and meets the approval of anglers.

DETROIT RIVER DIVISION.

Overseer *Joseph Boismier*, who has charge of the Detroit River, reports an improvement in the pickerel fishery. Whitefish were fairly abundant, and there is reason to believe that the catch was larger than reported. Herring are steadily declining, and something must be done to give them better protection. Sturgeon and perch, being also marketable fish, should be protected. It is stated that millions of young fish are destroyed by parties seining for minnows in the shallow bays of Detroit river. The total value of the fisheries of this division only amounts to \$11,200, being a shortage of over 40 per cent., as compared with 1889.

LAKE ERIE DIVISION.

Overseer *David Girardin's* division comprises the waters around Pelee Island. His returns show a decline of 50 per cent. in the catch of herring, owing to the strong gales which prevailed during the best run of these fish. Whitefish show about the same as during the previous year. There is a considerable increase in the

yield of pickerel and sturgeon. The total value of fish caught in this division is given at \$40,000, a decrease of over 33 per cent. from last year.

Overseer *Wm. Prosser's* division extends from the mouth of Detroit River to the Kent County line. His returns show an increase in every kind of fish, except in herring, where there is a decline of 50 per cent. This decrease alone explains the deficiency in the total value of this season's catch (\$80,000), at the same percentage, as compared with the previous year.

Overseer *John McMichael* has charge of the frontage of the counties of Kent and Elgin. He reports the stormy weather washing the clay banks and rendering the waters so muddy that the finer grades of fish kept outside. The season was therefore late in beginning; but the yield proved, however, an average one. The Kent division shows an increase. The close seasons are reported to have been well observed. The total value of the fisheries of the former division foots up to \$148,500, and the latter to \$100,400.

Overseer *David Sharp*, who attends to the Norfolk division, reports a large decrease in the yield of all kinds of fish, owing to unfavourable weather and strong winds which kept the fish off shore. Some protection should be given to sturgeon, which is becoming the most valuable fish of Lake Erie. There were 15,000 lbs., more of this fish caught last year, in this division, than of whitefish. Its value is constantly increasing. One party was convicted of violating the bass close season, and fined \$20. The total value of the fisheries of this division is given at \$35,400, a decrease of 28 per cent. from 1889.

Overseer *C. W. Evans*, of Cayuga, has charge of part of the Grand River from North Cayuga to Caledonia. He reports this stream specially adapted for the breeding of large black bass and pickerel, both of which show unmistakable signs of increase. A close watch was kept on poachers using nets and light jack spears, and these illegal practices, were to a certain extent, checked. Some residents complain of the regulation which prohibits netting and spearing for their own use; but as good strings of fish can, at any time be, caught with hook and line, the Overseer considers that they have little reason to grumble. Several nets and spears were confiscated and some of the offenders prosecuted. The fish-way at Dunville was inspected and found efficient, but the overseer thinks it is not properly located. Two mill owners were summoned before a magistrate, and compelled to desist from throwing sawdust into the stream.

LAKE ONTARIO DIVISION.

Overseer *Fred. Kerr* supervises the Hamilton division, which extends from Moulton Bay, on Lake Erie, to Burlington Beach, on Lake Ontario, including Niagara River. He reports the shore fishing for herring in Lake Ontario poor, owing to continued adverse easterly winds, until the fish had gone to deep water, where some good catches were made at distances of two to four miles outside. At Port Maitland, on Lake Erie, enormous hauls of 30 barrels per lift were made of splendid-sized herring. Ciscoes are surely decreasing, the catch being barely half that of former years. In some localities it proved a complete failure. Several theories are advocated by fishermen for this seeming disappearance; but Mr. Kerr attributes it solely to steady overfishing, and strongly urges the adoption of a close season. Whitefish appeared at Burlington Beach in June and July, but continuous winds prevented the fishermen from going out. The usual quantity of whitefish and salmon trout was, however, taken. Sturgeon were not seen at Niagara, but reported abundant at Ridgeway, where they were caught of very large size and brought remunerative prices. Coarse fish were abundant. Perch is now finding its way on the markets at fair prices. Some of these fish weigh as high as 3 pounds, and, to a certain extent, replace ciscoes during the summer months.

In the Lake Erie portion of Mr. Kerr's division fishing generally was better than on Lake Ontario. Angling in Grand River was reported good, fine strings of bass and pickerel being caught throughout the season. All the sawmills of this district were visited, and the owners notified to comply strictly with the law regarding sawdust. Two mill owners were fined for non-compliance with the law. Mill owners at

York and Caledonia, on the Grand River, were served with the requisite notices to build fish-ways. Several gill-nets, illegally used in Burlington Bay, were seized and destroyed. With these exceptions, no other violations of the fishery laws occurred. The total value of the fisheries in the Lake Ontario portion amounts to \$48,584, and in Lake Erie to \$16,321—a total of \$64,905.

Overseer *Wm. Sargent's* division extends from Burlington Beach to Port Credit, on Lake Ontario. The catch of ciscoes and herrings was nearly equal to that of previous years. Although there is no visible decline in the yield of these fish, this officer urges the adoption of a close season, especially for ciscoes, and recommends the months of July and August as the proper time. Fishermen being too crowded in this division, some went to Frenchman's Bay, but met with poor luck, owing to their being unacquainted with the fishing localities. On a visit to this bay, to enquire into the cause of fishermen losing so many nets by strong under-currents, it was ascertained that the bottom would have been all right, had they gone further out in the bay; say from seven to ten miles. The yield of fish in this division is valued at \$50,000, a slight decrease from last year's returns.

Overseer *Wm. Helliwell's* division comprises that part of Lake Ontario fronting on the County of York. Great difficulty is experienced in obtaining reliable data of the fishermen's catch, and this should be made one of the conditions to entitle one to obtain a renewal of their license. The yield fell off a little, owing to a couple of the principal fishermen not pursuing their calling, as formerly. Those who devoted all their time and attention to the fishing business did well. Herring seems the staple fish of this division; its catch is given at 121,000 lbs. The total value of all the fisheries nearly reaches \$10,000.

Overseer *Charles Gilchrist* has charge of that part of the coast of Lake Ontario fronting on the County of Northumberland, including Rice Lake. He reports a further decrease in the yield of whitefish and salmon trout, the catch of the latter fish not exceeding 600 lbs. The principal fish now caught are ciscoes, which are here deemed an inferior fish.

Rice Lake kept up to its usual standard. Large numbers of maskinonge were caught by sportsmen as well as by Indians, and every one admits that the stock is yearly increasing. Over one hundred Indians were constantly engaged fishing for yellow bass and maskinonge. They make a good thing of it by peddling these fish and bartering them for farm produce. Very few foreigners visited Rice Lake during the season, but those who came admitted that they never before had such luck. A party of three Americans caught 119 maskinonge and a large number of bass in six days.

The total value of fish caught at Rice Lake was \$13,800, and for the whole division \$18,308.

Overseer *Nelson Simmons*, of Meyersburg, who attends to the Trent River, reports a better catch of fish than usual, especially in maskinonge and bass. The close seasons were well observed. There is only one fish-way in working order on this stream. The old ladder at Chisholm's Rapids is completely gone, and Messrs. Miller & Co. have failed to place a new one in their dam. Pickerel cannot improve so long as these dams remain unprovided with fish-passes. The river has been well kept clear of sawdust and rubbish of any kind. The total value of the fisheries in this district is given at \$11,136.

Overseer *Geo. B. McDermot*, whose division comprises the shore of Lake Ontario, from Oshawa to Ashbridge's Bay, as well as Lake and River Scugog, reports that very little fishing was done at Pickering Harbour, only a few licenses being granted. There are, however, signs of an active season for 1891, several fishermen from Bronté intending to fish in these waters, with a better class of boats and superior gear. This may stimulate local fishermen to improve their mode of fishing. The yield of the fisheries in this division reaches \$10,000.

Bass and maskinonge are steadily improving in Lake Scugog. The catch exceeded that of previous year, and the bass were the largest ever seen in these waters, and of a delicious flavour. The shores of this beautiful lake were strewn with camps of tourists, enjoying fine sport. This brings quite a revenue to settlers,

who are thus enabled to dispose of their farm produce at fair prices. During the close season, the spawning beds were swarming with breeding fish. Several poachers were caught at work and promptly fined, which had a telling effect upon others. The people generally begin to realize the beneficial effects of protection, and are loud in their praise of the Department's action in the matter. The total value of the fish caught at Lake Scugog is estimated at \$25,740.

PRINCE EDWARD AND BAY QUINTE DIVISION.

Overseer *W. P. Clarke*, of Belleville, who was appointed to replace Overseer Wilkins, reports an average catch. The returns show that 78,400 pounds of whitefish were taken in fifteen days. Mr. Clarke thinks that the catch of bass is understated by fishermen. Fishing for pickerel through the ice was better than for the past twenty years. There are no fish-ways in this district. The close season for whitefish was well observed. The mill owners are complying with the law respecting sawdust and mill rubbish. The fisheries of this district are valued at \$27,000.

Overseer *Jos. Redmond*, whose division comprises the waters of Lake Ontario around the County of Prince Edward, reports a slight improvement in the yield of fish over that of last year. No violations of the law occurred, and the fishery regulations were well observed. The total value of the fisheries of this division is given at \$28,840.

LENNOX, ADDINGTON AND FRONTENAC DIVISIONS.

Overseer *A. D. Sills*, who has charge of the fisheries of the County of Lennox, reports a decline in the yield of his division, owing to a smaller number of fishermen being engaged in this pursuit; and others, considering the license fee too high for coarse fish, refused to fish at all. The close seasons were strictly observed. The entire catch of this district is valued at \$5,700.

Overseer *R. R. Finkle*, whose division comprises that part of Lake Ontario fronting on the Township of Erne-town, including Amherst Island, returns a much lighter catch than usual; but prices were better. The close season is reported to have been well observed, and no violations of the law came to this officer's notice. The value of the fisheries of this division only comes to \$12,600, a decrease of 40 per cent., as compared with the year 1889.

Overseer *George Lake*, who has charge of the lower portion of the inland waters of the County of Frontenac, states that fishing was not so actively pursued as usual. Herring are getting abundant in those waters, and settlers catch a good many for their own use. This Overseer recommends the issue of net licenses to residents for this kind of fish only. A fish-way is needed at the foot of Bob's Lake.

Overseer *Robert Gilbert*, who has charge of some eighteen lakes in the upper portion of the County of Frontenac, reports an average catch. Trout Lake, which was re-stocked some years ago, shows signs of improvement. Complaints of spearing by sportsmen during the hunting season proved groundless upon investigation. There are no fish-ways in this division, but one is recommended at the junction of Lower and Upper Trout Lakes, and as the mill was burnt last summer, this is the proper time for having it placed in the dam.

Overseer *H. R. Purcell*, who has charge of the lakes in the County of Addington, reports very little netting in his division. Black bass are on the increase in the Napanee waters. He recommends that several lakes in the vicinity of the Napanee and Kingston Railways be re-stocked with Oswego bass and pickerel. The small yield of fish in this division is not due to a scarcity of fish, but to abundance of other work. Very little sawdust now goes into the streams. The close seasons are well observed.

WOLFE ISLAND AND KINGSTON DIVISION.

Overseer *Thomas Merritt*, who has charge of the lake shore frontage of the County of Frontenac, reports a slight decrease in the season's operation. This is ascribed to a less vigorous prosecution of the spring fisheries, prices being then low and fishermen finding more remunerative employment elsewhere. The summer catch by anglers and trollers has never been better for many years past. Fly-fishing for bass in the inland lakes was remarkably good. Mr. Merritt suggests that foreign

sportsmen be required to report at the Custom house or to the local Fishery Overseer, in order that their equipment be inspected, as a protection against illegal fishing appliances.

Overseer *Peter Kiel*, who has charge of the fishing grounds around Wolfe Island, reports that fish were as abundant as before, but that the decreased yield is to be attributed to a less vigorous prosecution of the fishery. All the coarse fish taken in this division are shipped to United States markets. The Kingston markets are supplied from the upper lakes, at reasonable prices. The close seasons are well observed.

ROCKPORT, BROCKVILLE AND CORNWALL DIVISIONS.

Overseers *Wallace, Hunt, Poole, McGarity* and *Mooney* have charge of the divisions which extend from Gananoque to Glengarry. With the exception of hoop-nets fished in the vicinity of Rockport, no netting is allowed in these waters. Anglers and pleasure seekers give employment to numerous boatmen. Fishing seems to be improving, as the returns show an increase of 50 per cent. in the catch of bass over that of the previous season, and over 200,000 lbs. of pike. The total value of the fisheries is reckoned at \$27,564, an increase of over \$10,000.

PRESCOTT, RUSSELL AND CARLETON COUNTIES DIVISION.

Overseers *P. St. Pierre*, of Point Fortune, *O. Miron*, of Alfred, and *W. Boucher*, of South March, have charge of the Ottawa River fronting on the above-named counties. The fisheries of these divisions are unimportant, coarse fish only being caught, and the total yield valued at \$5,400.

LAKE NIPISSING DIVISION.

Overseer *J. S. Richardson* reports a falling off in the catch, not through a lack of fish, but owing to the fact that settlers being unprepared to keep fish during the summer weather, only begin to fish late in September, when they can safely ship. The principal kinds of fish in these waters are pickerel and pike. Over 700 tourists visited the now famous summer resort at Manitou Island. Nearly 200 Indians are settled on the banks of this beautiful lake, chiefly living on fish. Mr. Richardson recommends the granting of licenses to fish for sturgeon with large-meshed nets, so that no other kinds of fish can be caught. The only fish-way in this division is that at the foot of Turtle Lake, which was built last summer.

PARRY SOUND AND MUSKOKA DIVISIONS.

Overseer *G. R. Steele*, of Lorimer Lake, states that complaints still occur regarding the want of fish-ways on some streams in his division. One party was detected fishing in Staley's Creek during the close season, and fined. Three mill owners were also prosecuted for violation of the Sawdust Act. In one case the offender was fined; the other cases are still pending. Mr. Steele favours the issue of licenses to settlers for net-fishing for domestic purposes only.

Overseer *William Lockhart*, of Denville, has charge of the inland waters of several townships in Muskoka and Parry Sound. He also recommends the granting of net licenses to residents during the open season. The close seasons in this division were fairly observed.

Overseer *Henry W. Gill*, of Ufford, who attends to Lakes Rosseau and Muskoka, reports fish abundant. Angling was good. A bad habit prevails among tourists of killing young fish, too small for food, simply for the purpose of boasting of having killed so many fish during such a time. Bass fishing seems to be the principal attraction of the numerous sportsmen who visit those beautiful waters. Mr. Gill also urges the issue of herring-net licenses to settlers, as these fish cannot be caught otherwise.

Overseer *J. G. Rumsey*, of Huntsville, reports that all fishing in his division is carried on by anglers or for local consumption. Tourists were scarce last season. The necessity of a fish-pass at Burk's Falls, on the upper waters of Maganettawan River, is much felt, as this is the best speckled trout stream in that district. The southern branch of the Muskoka and its tributaries are well stocked with game fish;

but the same cannot be said of the north branch, which should receive some fry from the Government hatcheries. The salmon trout fry placed in these waters two years ago is reported to be thriving. Considerable trouble was experienced with poachers spearing on the spawning grounds. It is a difficult thing to contend against this evil, neighbours being reluctant to inform on one another; and the law-breakers being masked and disguised it becomes impossible to identify them. This officer's endeavours to track these reckless individuals thus utterly failed. No trouble is experienced with mill owners; most of them have built burners to consume all the rubbish from their mills.

LAKE SIMCOE AND COUCHICHING DIVISIONS.

Overseer *L. S. Sanders*, who has charge of the west side of Lake Simcoe, reports that the heavy fines which were imposed during the season of 1889 had a telling effect, no violations of the law being discovered this season. Angling was good. Black bass appeared abundant, but for some reason or another it would not take the troll.

Overseer *Wm. Hastings'* division comprises the south and eastern sides of Lake Simcoe. He reports the close season as having been fairly well observed. Angling was poor. He issued 45 spearing permits.

Overseer *Wm. McDermot*, who attends to the inland waters of the County of Simcoe, reports a marked improvement in the catch of speckled trout and pike; bass and maskinonge about the same as last year. Owing to heavy freshets, several fish-ways were either damaged or entirely carried away. They were, however, repaired as soon as circumstances would permit. The law relative to sawdust was not very well complied with, and this officer was compelled to proceed and convict several parties. The close seasons were well observed, and poaching has almost disappeared from these waters.

Overseer *F. Webber* has charge of the northern part of Lake Simcoe, of Lake Couchiching, the Severn River and its tributaries. He reports an increase in all kinds of fish, especially in maskinongé, whitefish and speckled trout. The improvement in the yield of maskinongé is ascribed to the stoppage of spearing during the close-season, that of whitefish to artificial re-stocking, and of speckled trout to the absence of sawdust or other rubbish from the streams. The Rama Indians gave some trouble; but since the attention of the agent has been called to their lawless acts they seem more inclined to obey the laws. Two mill owners were prosecuted for allowing sawdust to escape into the Severn River, but a conviction could not be obtained, for want of sufficient evidence. Lots of anglers from the States visited the Severn River, one party numbering ninety persons.

VICTORIA COUNTY DIVISION.

Overseer *J. R. Graham*, who has charge of the inland waters of the above-named county, reports maskinongé and bass increasing. The close season has been well observed; only a single complaint was laid before him, but as no direct proof could be made the matter was allowed to drop. The fish-way at Balsover dam is in good repair. All the owners of saw mills visited by this Overseer seem well disposed to carry out the law.

PETERBOROUGH COUNTY DIVISION.

Overseer *G. W. Fitzgerald*, of Lakefield, who has been appointed to replace ex-Overseer Cochrane, whose services were dispensed with, states it is impossible to give any accurate estimate of the fish caught in the numerous lakes under his charge, known as the Peterborough division. It must be quite large, for, adding tourists to settlers, and a considerable Indian population (living mostly by fishing), he estimates the number of persons fishing at different seasons of the year to fully 2,000. He says that much illegal fishing has been carried on in the past, but he hopes with one assistant to be able to cope with it in the future. In some lakes, the fish are abundant, and seem to be increasing, while others show signs of decreasing, owing, no doubt, to past illegalities.

RETURN of the Number and Value of Vessels, Boats and Fishing Materials, the
in the Province of **Ontario**,

| DISTRICTS. | VESSELS AND BOATS EMPLOYED. | | | | | | FISHING | |
|---|-----------------------------|----------|--------|------|--------|--------|---------|--------------------|
| | Vessels or Tugs. | | | | Boats. | | | Gill Nets. |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. Value. |
| <i>Lake Superior Division.</i> | | | | | | | | |
| Thunder Bay..... | 1 | 15 | 600 | 3 | 2 | 150 | 4 | 6000 360 |
| Welcome Islands..... | | | | | 4 | 300 | 8 | 2000 720 |
| Point Porphyry..... | | | | | 3 | 225 | 6 | 9000 540 |
| Black Bay..... | 2 | 150 | 2200 | 8 | 2 | 150 | 4 | 6000 360 |
| Roche Debout..... | | | | | 2 | 150 | 4 | 6000 360 |
| Nepigon Bay..... | 1 | 20 | 900 | 3 | 9 | 850 | 18 | 27000 1620 |
| Caribou Island..... | | | | | 2 | 200 | 2 | 6000 525 |
| North Mamainse..... | | | | | 2 | 300 | 3 | 6500 500 |
| Lizard Islands..... | 2 | 57 | 5500 | 9 | 8 | 1600 | 22 | 16000 2000 |
| Batchewaning Bay..... | | | | | 5 | 1000 | 18 | 10000 2000 |
| Pancake Bay..... | | | | | 1 | 75 | 3 | ..... |
| Gros Cap..... | | | | | 2 | 160 | 4 | 112 100 |
| Totals..... | 6 | 242 | 9200 | 23 | 42 | 5160 | 96 | 94,612 9085 |
| <i>Manitoulin Islands and Vicinity.</i> | | | | | | | | |
| Serpent River..... | 2 | 40 | 2400 | 9 | 5 | 750 | 14 | 25000 3000 |
| Macbeth's Bay..... | | | | | 2 | 200 | 2 | ..... |
| Grand Sable..... | | | | | 2 | 200 | 2 | ..... |
| Grand Batture..... | | | | | 2 | 500 | 5 | ..... |
| Spanish River..... | 1 | 27 | 2000 | 4 | 2 | 500 | 7 | ..... |
| Meldrum Bay..... | | | | | 2 | 400 | 4 | ..... |
| Tolsma's Bay..... | | | | | 1 | 200 | 2 | ..... |
| Barrie Island..... | | | | | 2 | 300 | 4 | 6000 1000 |
| Kagawong..... | | | | | 3 | 450 | 6 | ..... |
| Duck Islands..... | 2 | 30 | 5000 | 12 | 16 | 3200 | 26 | 12000 1200 |
| From South Bay to Gore Bay including Squaw and Club Islands..... | 8 | 190 | 12000 | 40 | 67 | 6700 | 200 | 165000 30000 |
| Totals..... | 13 | 287 | 21400 | 65 | 104 | 13400 | 272 | 208000 35200 |

Number of Men employed, &c., with the Kinds and Quantities and Values of Fish for the Year 1890.

| MATERIALS. | | | | KINDS OF FISH. | | | | | | | | | | | |
|------------|--------|-------------|--------|---------------------|-----------------|-------------|-----------------|----------------------|----------------|----------------|------------|-------------------|------------------------|------------|--|
| Seines. | | Pound Nets. | | Whitefish, barrels. | Whitefish, lbs. | Trout, lbs. | Trout, barrels. | Herring, fresh, lbs. | Sturgeon, lbs. | Pickarel, lbs. | Pike, lbs. | Coarse Fish, lbs. | Home Consumption, lbs. | VALUE. | |
| No. | Value. | No. | Value. | | | | | | | | | | | | |
| | ¢ | | ¢ | | | | | | | | | | | ¢ cts. | |
| | | | | 50 | 60000 | 40000 | 15 | 4000 | | 10000 | | 10000 | 80000 | 11,450 00 | |
| | | | | 20 | 80000 | 50000 | 10 | | | | | | | 11,700 00 | |
| | | | | 60 | 90000 | 50000 | 20 | | | | | | | 13,000 00 | |
| | | 8 | 2100 | 10 | 250000 | 150000 | 15 | | 77400 | 60000 | | 35000 | | 44,544 00 | |
| | | 2 | 500 | 15 | 50000 | 40000 | 25 | | | | | | | 8,400 00 | |
| | | 2 | 500 | 140 | 250000 | 90000 | 50 | | | 20000 | | | 6000 | 32,280 00 | |
| | | | | | | | 500 | | | | | | | 5,000 00 | |
| | | | | | 14000 | 12000 | | | | | | | | 2,329 00 | |
| | | 1 | 750 | 40 | 39400 | 52600 | 78 | | 10900 | | | | | 10,249 00 | |
| | | 1 | 840 | 43 | 41000 | 33100 | 29 | | 7000 | | | | | 7,730 00 | |
| | | 1 | 650 | 36 | 17600 | 12300 | 65 | | 2100 | | | | | 3,774 00 | |
| | | | | 18 | | 800 | | | | | | | | 260 00 | |
| | | 15 | 5340 | 132 | 892000 | 530800 | 807 | 4000 | 97400 | 90000 | | 45000 | 36300 | 150,713 00 | |
| | | | | | | | | | | | | | | | |
| | | 2 | 900 | 28 | 73000 | 85000 | 22 | | 5000 | 8050 | | | | 15,623 00 | |
| | | 2 | 500 | 54 | 14850 | 12240 | | | 1100 | | | | | 3,018 00 | |
| | | 2 | 400 | | 20650 | 19100 | | | 650 | | | | | 3,601 00 | |
| | | 4 | 1600 | | 10000 | 6000 | | | 16000 | 25000 | | | | 3,860 00 | |
| | | 4 | 1600 | | 10000 | 8000 | | | 25000 | 50000 | | | | 6,100 00 | |
| | | 2 | 1000 | | 30000 | 29000 | | | 2000 | 9000 | 700 | 7000 | 1000 | 6,235 00 | |
| | | 2 | 900 | | 30300 | 20000 | | | 1500 | 8000 | 600 | 6000 | 700 | 5,225 00 | |
| | | 1 | 300 | | 24000 | 40000 | | | 8000 | | | | 1000 | 6,430 00 | |
| | | 3 | 1000 | | 39600 | 16500 | | | 2100 | 9800 | 800 | 7600 | 1400 | 5,842 00 | |
| | | 6 | 2300 | | 84000 | 246000 | | | 6700 | 11000 | | 1600 | 2700 | 32,511 00 | |
| 2000 | 375 | 1 | 150 | 1400 | 1900000 | 250000 | 820 | | 38000 | 50000 | 5000 | | 10000 | 205,030 00 | |
| 2000 | 375 | 29 | 10650 | 1482 | 2236400 | 731840 | 842 | | 106050 | 170850 | 7100 | 22200 | 16800 | 293,475 00 | |

RETURN of the Number and Value of Vessels, Boats

| DISTRICTS. | VESSELS AND BOATS EMPLOYED. | | | | | | FISHING MATERIAL. | | | | | | | | |
|-------------------------------------|-----------------------------|----------|--------|------|--------|--------|-------------------|--------|----------|--------|-------------|--------|------------|--------|--|
| | Vessels or Tugs. | | | | Boats. | | Gill Nets. | | Seines. | | Pound Nets. | | Hoop Nets. | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Fathoms. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. | |
| | | | | | | | | | | | | | | | |
| <i>Georgian Bay Division.</i> | | | \$ | | | \$ | | \$ | | \$ | | \$ | | \$ | |
| Bustard Islands | 2 | 50 | 3200 | 8 | 22 | 4400 | 40 | 152000 | 18240 | 35 | 120 | | | | |
| Byng Inlet | 1 | 35 | 1500 | 3 | 11 | 1980 | 26 | 66000 | 7920 | | | | | | |
| Point au Barril | | | | | 15 | 2700 | 33 | 90000 | 10800 | | | | | | |
| Mink Island | | | | | 11 | 1980 | 30 | 66000 | 7920 | | | | | | |
| Moose Point | | | | | 5 | 800 | 12 | 30000 | 3600 | | | | | | |
| Western Island | | | | | 10 | 2000 | 30 | 60000 | 7200 | | | | | | |
| High Rock | | | | | 6 | 1080 | 12 | 30000 | 3600 | | | | | | |
| Sturgeon Bay | | | | | | | | | | 250 | 400 | | | | |
| Nottawasaga River | | | | | 1 | 150 | 3 | | | 180 | 30 | | | | |
| Collingwood | 2 | 75 | 4200 | 10 | 5 | 750 | 12 | 6000 | 900 | | | | | | |
| Meaford and Thornbury | 2 | 40 | 3500 | 8 | 14 | 2500 | 30 | 9000 | 1350 | | | | | | |
| Vail's Point | | | | | 9 | 1500 | 20 | 2500 | 375 | | | | | | |
| Owen Sound Bay | 1 | 15 | 3000 | 4 | 8 | 1200 | 18 | 2000 | 300 | | | | | | |
| Colpoys Bay to Cape Hurd | 7 | 145 | 24000 | 25 | 35 | 8000 | 112 | 220100 | 54000 | | | | | | |
| Totals | 15 | 360 | 39400 | 58 | 152 | 29040 | 378 | 733600 | 116205 | 465 | 550 | | | | |
| <i>Lake Huron Division.</i> | | | | | | | | | | | | | | | |
| Stokes Bay & Port Caldwell | 4 | 200 | 8000 | 16 | 15 | 3700 | 42 | 23000 | 7000 | | | | | | |
| Fishing Islands | | | | | 24 | 2400 | 60 | 50000 | 6800 | | | | | | |
| Indian Beach | | | | | 2 | 40 | 20 | | | 400 | 1600 | | | | |
| Sauble Beach | | | | | 7 | 140 | 28 | | | 1400 | 5600 | | | | |
| Saugeen and River | | | | | 6 | 1500 | 24 | 34000 | 6000 | | | | | | |
| Port Elgin | | | | | 1 | 250 | 3 | 1000 | 1300 | | | | | | |
| Southampton | 2 | 130 | 300 | 8 | 14 | 2800 | 42 | 17000 | 5800 | | | | | | |
| Kincardine | | | | | 3 | 700 | 8 | 2500 | 1400 | | | | | | |
| Inverhuron | | | | | 10 | 1200 | 18 | 4000 | 1400 | | | | | | |
| Goderich | 3 | 150 | 6000 | 12 | 10 | 2600 | 29 | 15500 | 5000 | | | | | | |
| Bayfield, Grand Bend and Blue Point | 1 | 22 | 3000 | 15 | 24 | 2210 | 49 | 5200 | 500 | 124 | 275 | 37 | 7350 | | |
| From Blue Point to Point Edward | | | | | 15 | 570 | 43 | | | 490 | 1710 | | | | |
| Totals | 10 | 502 | 17300 | 51 | 131 | 18110 | 306 | 152200 | 35200 | 2414 | 9185 | 37 | 7350 | | |

and Fishing Material, &c.—Ontario—Continued.

| KINDS OF FISH. | | | | | | | | | | | | | | |
|---------------------|-----------------|-------------|-----------------|-------------------|----------------------|------------|----------------|------------------|------------|----------------|------------|-------------------|------------------------|------------|
| Whitefish, barrels. | Whitefish, lbs. | Trout, lbs. | Trout, barrels. | Herring, barrels. | Herring, fresh, lbs. | Eels, lbs. | Sturgeon, lbs. | Mackinonge, lbs. | Bass, lbs. | Pickarel, lbs. | Pike, lbs. | Coarse Fish, lbs. | Home Consumption, lbs. | VALUE. |
| | | | | | | | | | | | | | | \$ cts. |
| 100 | 564000 | 150000 | 50 | | | | 5000 | 2000 | 5000 | 100000 | 15000 | 2000 | 30000 | 70,050 00 |
| 50 | 412000 | 108000 | 20 | | | | 1000 | 1000 | 7000 | 80000 | 7000 | 3000 | 15000 | 50,690 00 |
| 100 | 450000 | 150000 | 75 | | | | 5000 | 500 | 50000 | 60000 | 2000 | 5000 | 30000 | 60,830 00 |
| 20 | 306000 | 132000 | 15 | 25 | | | | 20000 | 60000 | 2000 | 2000 | 10000 | 50,590 00 | |
| 30 | 120000 | 30000 | 50 | 30 | | | 1000 | 500 | 25000 | 80000 | 1000 | | 25000 | 20,710 00 |
| 100 | 300000 | 100000 | 100 | | | | | 1000 | 40000 | | | | 500 | 38,475 00 |
| 5 | 72000 | 72000 | 5 | 25 | 10000 | | 500 | 500 | 5000 | 20000 | 2000 | 5000 | 2000 | 15,530 00 |
| | | | | | 2000 | | 500 | 500 | 1000 | 10000 | 2000 | 5000 | | 1,070 00 |
| 20 | 12000 | 40000 | 30 | 45 | | | 8000 | | | 500 | | 300 | 500 | 6,174 00 |
| 40 | 70000 | 250000 | 45 | 35 | | | | | | 900 | | 600 | 5000 | 31,812 00 |
| 15 | 30000 | 180000 | 60 | 40 | | | | | | 800 | | 900 | 3000 | 21,475 00 |
| | 15000 | 200000 | 150 | | | | | | | 900 | | 1200 | 4000 | 22,910 00 |
| 10 | 5000 | 150000 | 50 | 20 | | | | | | 1000 | | 1400 | 6000 | 16,362 00 |
| 50 | 412000 | 882000 | 110 | 112 | | | | | | 10200 | | | | 123,820 00 |
| 540 | 2858000 | 2444000 | 760 | 332 | 12000 | | 21000 | 5000 | 114000 | 464300 | 31000 | 26400 | 131000 | 530,498 00 |
| 1500 | 50000 | 650000 | 1500 | 3200 | | | | | | | | | | 69,000 00 |
| | | | | 200 | 60000 | | | | | | | | | 42,800 00 |
| | | | | 1200 | 138500 | | | | | | | | | 3,800 00 |
| | 28000 | 70000 | | | | | | | | | | | | 11,725 00 |
| | 7000 | | | | | | | | | | | | | 9,240 00 |
| | 40000 | 170000 | | | 3000 | | | | 2000 | 3000 | | 5000 | 13000 | 560 00 |
| | | 37750 | | | 6000 | | | | 2200 | 1200 | | 600 | 15400 | 21,190 00 |
| | | 12000 | | | 60000 | | | | | | | | 72000 | 4,759 00 |
| | | 150000 | | | 12000 | 12000 | | | 5000 | 8300 | 300 | 20300 | 100000 | 6,360 00 |
| 11 | 14820 | 8900 | 50 | 60 | 83700 | | 190600 | | | 122400 | | 14000 | 13000 | 20,022 00 |
| | | 2000 | | | 51500 | | 33150 | | | 47200 | | | | 26,700 60 |
| | | | | | | | | | | | | | | 7,596 00 |
| 1511 | 139820 | 1100650 | 1550 | 4660 | 414700 | | 223750 | | 9200 | 182100 | 300 | 39900 | 213400 | 223,752 60 |

RETURN of the Number and Value of Vessels, Boats

| DISTRICTS. | VESSELS AND BOATS EMPLOYED. | | | | | | FISHING MATERIALS. | | | | | | | | |
|---|-----------------------------|----------|--------|------|--------|--------|--------------------|----------|---------|----------|-------------|-----|------------|-----|--------|
| | Vessels. | | | | Boats. | | Gill Nets. | | Seines. | | Pound Nets. | | Hoop Nets. | | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. |
| <i>River and Lake St. Clair Division (including Thames River.)</i> | | | * | | | * | | | * | | * | | * | | * |
| Point Edward to Baby's Pt. | | | | | 18 | 400 | 40 | | | 380 | 690 | | | | |
| Mitchel's Point | | | | | 5 | 200 | 16 | | | 125 | 445 | | | | |
| Sydenham River. | | | | | 2 | 30 | 8 | | | 100 | 160 | | | | |
| Thames River | | | | | 19 | 164 | 105 | | | 700 | 640 | | | | |
| Stony Point. | | | | | 13 | 365 | 52 | | | 6900 | 7300 | | | | |
| Totals. | | | | | 57 | 1159 | 221 | | | 8205 | 9235 | | | | |
| <i>Detroit River Division.</i> | | | | | | | | | | | | | | | |
| Detroit River, Peach and Bois Blanc Island. | | | | | 25 | 724 | 106 | | | 720 | 1400 | 4 | 1000 | 3 | 105 |
| <i>Lake Erie Division.</i> | | | | | | | | | | | | | | | |
| Point Pelée (Island). | | | | | 26 | 2416 | 55 | | | | | 28 | 5060 | | |
| do (Mainland) | | | | | 42 | 4070 | 54 | | | | | 39 | 9650 | | |
| Romney to Orford. | | | | | 61 | 3535 | 72 | 850 | 5800 | 1070 | 420 | 52 | 16800 | | |
| Fronting on County of Elgin | 7 | 113 | 11100 | 42 | 36 | 4260 | 67 | | | 380 | 200 | 48 | 16900 | | |
| Houghton to Rainham, including Inner and Outer Bays and Turkey Point. | 4 | 24 | 4900 | 8 | 48 | 2750 | 139 | 7400 | 1745 | 4000 | 2630 | 24 | 7200 | | |
| Long Point Island. | | | | | 5 | 100 | 10 | 1950 | 234 | | | | | | |
| Cayuga to Fort Erie, including Grand River. | 1 | 26 | 700 | 2 | 36 | 1650 | 77 | 14400 | 4570 | 1225 | 1025 | 6 | 1200 | | |
| Totals. | 12 | 163 | 16700 | 52 | 264 | 18775 | 474 | 24600 | 12349 | 6675 | 4275 | 197 | 56810 | | |

and Fishing Materials, &c.—Ontario—Continued.

| KINDS OF FISH. | | | | | | | | | | | | | | VALUE. |
|------------------|-----------------|-------------|--------------|----------------|----------------------|------------|----------------|------------------|------------|----------------|------------|-------------------|------------------------|------------|
| Whitefish, brls. | Whitefish, lbs. | Trout, lbs. | Trout, brls. | Herring, brls. | Herring, fresh, lbs. | Eels, lbs. | Sturgeon, lbs. | Maskinonge, lbs. | Bass, lbs. | Pickarel, lbs. | Pike, lbs. | Coarse Fish, lbs. | Home Consumption, lbs. | |
| | | | | | | | | | | | | | | \$ cts. |
| | | | | | 36000 | | 6000 | | | 73400 | 1500 | 1000 | | 6,669 00 |
| | | | | | | | | | 10240 | 300 | 2680 | 25400 | 2150 | 1,592 90 |
| | | | | | | | | | | 2200 | | 5800 | | 306 00 |
| | 20800 | 41000 | | 812 | 101500 | | 3300 | 2410 | 3730 | 61520 | 3400 | 129500 | 15000 | 22,849 60 |
| | | | | | 2000 | | 2700 | 3500 | 3700 | 4700 | 3000 | 19700 | 17000 | 2,227 00 |
| | 20800 | 41000 | | 812 | 139500 | | 12000 | 5910 | 17670 | 142120 | 10580 | 181400 | 34150 | 33,644 50 |
| | | | | | | | | | | | | | | |
| | 38400 | | | | 59850 | | 36100 | 1040 | 600 | 15050 | 5500 | 54900 | 1000 | 11,199 90 |
| | | | | | | | | | | | | | | |
| | 22180 | | | | 532500 | | 50750 | | 43300 | 59500 | | 85400 | | 40,174 40 |
| | 40000 | | | | 1292000 | | 50800 | | 40100 | 58200 | | 101700 | | 79,779 00 |
| | 67200 | | | | 1975200 | | 245640 | | 27460 | 186500 | | 113600 | 448000 | 148,560 00 |
| | 51502 | | | | 1153800 | | 98000 | | | 456200 | 23200 | 70240 | 69000 | 100,399 36 |
| | | | | | | | | | | | | | | |
| | 17840 | | | | 318000 | | 68210 | 400 | 20420 | 157450 | 20020 | 70300 | 6000 | 35,406 00 |
| | | | | | | | 25400 | | | | | | 10000 | 1,824 00 |
| | 5600 | 1500 | | | 121500 | | 42110 | | 3370 | 43500 | 19600 | 111000 | | 16,321 80 |
| | 204322 | 1500 | | | 5393000 | | 580610 | 400 | 134650 | 961350 | 62820 | 552240 | 533000 | 422,464 56 |

RETURN of the Number and Value of Vessels, Boats

| DISTRICTS. | VESSELS AND BOATS EMPLOYED. | | | | | | | FISHING MATERIALS. | | | | | | | |
|--|-----------------------------|----------|--------|------|--------|--------|------|--------------------|--------|----------|--------|-------------|--------|------------|--------|
| | Vessels or Tugs. | | | | Boats. | | | Gill Nets. | | Seines. | | Pound Nets. | | Hoop Nets. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. | Value. | Fathoms. | Value. | No. | Value. | No. | Value. |
| | | | | | | | | | | | | | | | |
| <i>Lake Ontario (including Niagara Division).</i> | | | \$ | | | \$ | | | \$ | | \$ | | \$ | | \$ |
| Niagara River to Port Dal- housie... | 1 | 15 | 12000 | 2 | 25 | 2480 | 54 | 20100 | 3900 | 300 | 272 | 3 | 450 | | |
| Beamsville | | | | | 10 | 270 | 20 | 6100 | 680 | 100 | 50 | | | | |
| Winona | | | | | 3 | 225 | 7 | 4100 | 500 | | | | | | |
| Burlington Beach | | | | | 20 | 1415 | 40 | 13300 | 1820 | 1200 | 650 | | | | |
| Bronte | | | | | 13 | 1800 | 40 | 36500 | 4020 | | | | | | |
| Port Credit to Port Union | | | | | 9 | 1020 | 18 | 4200 | 2050 | 250 | 160 | | | | |
| Pickering Harbour | | | | | 3 | 600 | 8 | 2000 | 2200 | | | | | | |
| Brighton to Bowmanville | | | | | 23 | 870 | 52 | 5700 | 720 | 500 | 425 | | | 11 | 220 |
| Rice Lake and Tributaries | | | | | | | | | | | | | | | |
| Trent River | | | | | | | | | | | | | | | |
| Totals | 1 | 15 | 1200 | 2 | 106 | 8680 | 239 | 92000 | 15890 | 2350 | 1557 | 3 | 450 | 11 | 220 |
| <i>Prince Edward County and Bay Quinte Division.</i> | | | | | | | | | | | | | | | |
| Wellington Beach, Weller's Beach and Smith's Bay | 3 | 30 | 8000 | 9 | 46 | 900 | 85 | 42000 | 3200 | 400 | 400 | | | 37 | 550 |
| Bay Quinte, from Carrying Place to Mill Point | | | | | 68 | 1230 | 230 | 3500 | 360 | 4300 | 3500 | | | 80 | 1800 |
| Totals | 3 | 30 | 8000 | 9 | 114 | 2130 | 315 | 45500 | 3560 | 4700 | 3900 | | | 117 | 2350 |

and Fishing Materials, &c.—Ontario—Continued.

| KINDS OF FISH. | | | | | | | | | | | | | VALUE. | |
|---------------------|-----------------|-------------|-----------------|-------------------|-----------------------|------------|----------------|------------------|------------|----------------|------------|-------------------|--------|------------------------|
| Whitefish, barrels. | Whitefish, lbs. | Trout, lbs. | Trout, barrels. | Herring, barrels. | Herrings, fresh, lbs. | Eels, lbs. | Sturgeon, lbs. | Maskinongé, lbs. | Bass, lbs. | Pickarel, lbs. | Pike, lbs. | Coarse Fish, lbs. | | Home Consumption, lbs. |
| | | | | | | | | | | | | | | \$ cts. |
| | 100 | 100 | | 101 | 438700 | 800 | 31600 | | 2900 | 14500 | 2100 | 46000 | | 26,830 00 |
| | | 1000 | | | 75500 | | 200 | | 200 | | 1000 | 11700 | | 4,300 00 |
| | 1500 | 6500 | | | 47000 | | | | | | | 3500 | | 3,125 00 |
| | 1650 | 1100 | | | 212000 | | | | | | 1700 | 113400 | | 14,329 00 |
| | | 2000 | | | 987000 | 500 | | | 550 | | 1220 | 9800 | | 49,968 00 |
| | 1200 | 7500 | | 250 | 121000 | 3100 | | | 205 | 5000 | 2500 | 47700 | | 9,950 30 |
| | | | | | 200000 | | | | | | | | | 10,000 00 |
| | 3600 | 560 | | | 6000 | | | | | | 25500 | 86300 | | 4,508 00 |
| | | | | | | | | 150000 | 80000 | | | | | 13,800 00 |
| | | 2000 | | | | 11000 | 2600 | 45000 | 45000 | 32000 | 23000 | 55000 | | 11,136 00 |
| | 8050 | 20760 | | 351 | 2087200 | 15400 | 34400 | 195000 | 128855 | 51500 | 57020 | 373400 | | 148,046 30 |
| | | | | | | | | | | | | | | |
| | 140000 | 80000 | | | 60000 | 4000 | | | | 10000 | 35000 | 135000 | | 28,840 00 |
| 102 | 78400 | | | 270 | 209500 | 1400 | 900 | 956 | 2890 | 21700 | 14350 | 195000 | | 27,085 26 |
| 102 | 218400 | 80000 | | 270 | 269500 | 5400 | 900 | 956 | 2890 | 31700 | 49350 | 330000 | | 55,925 26 |

Return of the Number and Value of Vessels, Boats

| DISTRICTS. | VESSELS AND BOATS EMPLOYED. | | | | | | FISH- | |
|--|-----------------------------|----------|--------|--------|-----|--------|------------|----------|
| | Vessels. | | | Boats. | | | Gill Nets. | |
| | No. | Tonnage. | Value. | Men. | No. | Value. | Men. | Fathoms. |
| <i>Lennox, Addington and Frontenac Division.</i> | | | | | | | | |
| Lake Coast, fronting on Lennox and Addington, including | | | | | | | | |
| Napanee River..... | | | | | 23 | 720 | 44 | 3850 |
| Amherst Island..... | | | | | 23 | 450 | 45 | 6650 |
| Inland Waters, County Frontenac..... | | | | | | | | 560 |
| Totals..... | | | | | 46 | 1170 | 89 | 10500 |
| <i>Wolfe Island and Kingston Division.</i> | | | | | | | | |
| Pigeon Island | | | | | 2 | 70 | 5 | 1650 |
| Big Bay..... | | | | | 1 | 35 | 2 | 275 |
| Oak Point..... | | | | | 1 | 25 | 1 | 100 |
| Brother's to Howe Island..... | | | | | 13 | 325 | 13 | 1045 |
| Howe Island..... | | | | | 7 | 125 | 8 | 1506 |
| Gananoque..... | | | | | | | | 110 |
| Totals..... | | | | | 24 | 580 | 29 | 4576 |
| <i>Rockport, Brockville and Cornwall Divisions.</i> | | | | | | | | |
| St. Lawrence River, from Rockport to Glengarry Co. Line..... | | | | | | | | |
| <i>Prescott, Russell and Carleton Cos. Divisions.</i> | | | | | | | | |
| Ottawa River fronting on these Counties and Inland waters..... | | | | | | | | |
| <i>Leeds and Lanark Division.</i> | | | | | | | | |
| Charleston Lake..... | | | | | | | 10 | |
| Beverly Lake | | | | | | | 6 | |
| Gananoque Lake | | | | | | | 10 | |
| Rideau and neighbouring Lakes..... | | | | | 5 | 77 | 9 | |
| River Tay and Tributaries | | | | | 3 | 30 | 3 | |
| Totals..... | | | | | 8 | 107 | 38 | |
| <i>Renfrew Co. Division.</i> | | | | | | | | |
| Ottawa River fronting on County, including inland waters..... | | | | | | | | 350 |
| <i>Lake Nipissing Division.....</i> | | | | | 4 | 96 | 9 | 3800 |
| <i>Parry Sound and Muskoka do</i> | | | | | | | | 266 |
| <i>Wellington Co. do</i> | | | | | | | | |
| <i>Lake Simcoe do</i> | | | | | | | | |
| <i>Lake Seaboy and River do</i> | 1 | 15 | 1800 | 3 | 200 | 3000 | 150 | |
| <i>Victoria County do</i> | | | | | | | | |
| <i>Peterboro' Co. do</i> | | | | | | | | |

and Fishing Materials, &c.—Ontario—Continued.

| FISHING MATERIALS. | | | | KINDS OF FISH. | | | | | | | | | | VALUE. |
|--------------------|---------|------------|-----|-----------------|-------------|----------------------|------------|----------------|------------------|------------|---------------|------------|-------------------|-----------|
| Fathoms. | Seines. | Hoop Nets. | | Whitefish, lbs. | Trout, lbs. | Herring, fresh, lbs. | Eels, lbs. | Sturgeon, lbs. | Muskimongé, lbs. | Bass, lbs. | Pickrel, lbs. | Pike, lbs. | Coarse Fish, lbs. | |
| Value. | No. | Value. | | | | | | | | | | | | \$ |
| 25 | 35 | 33 | 650 | 32500 | | | 4200 | | | | 34750 | | 25100 | 5,690 00 |
| | | | | 125000 | 3500 | 4000 | | | | 2000 | 18000 | 18500 | | 12,605 00 |
| | | | | 1000 | 31700 | 2000 | 1000 | | 1000 | 3500 | 2500 | 4300 | 7000 | 3,621 00 |
| 25 | 35 | 33 | 650 | 158500 | 35200 | 6000 | 5200 | | 1000 | 5500 | 55250 | 22800 | 32100 | 21,916 00 |
| | | | | | 2600 | | | | | | | | | 200 00 |
| | | 3 | 45 | | | | 500 | | | | | 700 | 3000 | 155 00 |
| | | | | | | | | 300 | | | | 100 | 100 | 26 00 |
| | | 36 | 288 | | | | | | | | | 6100 | 34600 | 1,343 00 |
| | | 6 | 130 | | | | 1400 | | | 700 | | 6800 | 8300 | 715 00 |
| | | | | | | | 2800 | 6000 | 1500 | 4500 | | 75000 | 6000 | 4,818 00 |
| | | 45 | 463 | | 2600 | | 4700 | 6300 | 1500 | 5200 | | 88700 | 52000 | 7,317 00 |
| | | 40 | 350 | | | | 12900 | 4000 | 4500 | 74200 | 3900 | 214800 | 361800 | 27,564 00 |
| | | | | 800 | | | 6400 | 4000 | 7400 | 8000 | 9500 | 10000 | 90800 | 5,406 00 |
| | | 6 | 150 | 500 | 1600 | | | | | 1000 | | 1000 | 2000 | 370 00 |
| | | 10 | 150 | 1000 | | | 200 | | | 1000 | | 500 | 6700 | 378 00 |
| | | 13 | 220 | | | | | | | | | 100 | 24000 | 720 00 |
| | | 5 | 80 | | | 1200 | 200 | | | 2000 | 2000 | 1000 | 18650 | 564 50 |
| | | | | | | | | | | | | | 5000 | 512 00 |
| | | 34 | 600 | 1500 | 1600 | 1200 | 400 | | | 4000 | 2000 | 2600 | 56350 | 2,544 50 |
| | | | | 1600 | 1800 | | 835 | 460 | 1900 | 2130 | 2900 | 3450 | 15025 | 1,424 75 |
| | | | | | | | | 6000 | | | 16500 | 24900 | 46000 | 3,975 00 |
| | | | | 23400 | | | | | 500 | 4000 | 5500 | 500 | 24000 | 3,685 00 |
| | | | | 6000 | 30000 | 55000 | | | | 2500 | | 3000 | 42000 | 6,960 00 |
| | | | | 1500 | 32500 | 10000 | | | 26300 | 45400 | 7000 | 43000 | 25000 | 11,492 00 |
| | | | | | | | 4000 | | 25000 | 100000 | | | 150000 | 25,740 00 |
| | | | | | 1000 | 4000 | 1000 | | 30000 | 20000 | 5000 | | 6000 | 3,840 00 |
| | | | | 2000 | 20000 | 5000 | 14000 | | 120000 | 100000 | | | 30000 | 17,350 00 |

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Materials, the Number of Men employed, &c., with the Kinds and Quantities of Fish, in the Province of Ontario, for the Year 1890.

| NAME OF DIVISIONS. | VESSELS AND BOATS EMPLOYED. | | | | FISHING MATERIALS. | | | | | | | |
|--|-----------------------------|--------|--------|------|--------------------|------|---------|----------|-------------|--------|------------|--------|
| | Vessels or Tugs. | | Boats. | | Gill Nets. | | Seines. | | Pound Nets. | | Hoop Nets. | |
| | No. | Value. | Men. | No. | Value. | Men. | Value. | Fathoms. | No. | Value. | No. | Value. |
| Lake Superior Division | 6 | 242 | 23 | 42 | 5160 | 96 | 94612 | 9085 | | | | |
| Mantoulin do | 13 | 287 | 65 | 134 | 13400 | 272 | 208000 | 35200 | | 5340 | | |
| Georgian Bay do | 15 | 360 | 58 | 132 | 23040 | 378 | 733600 | 116205 | 29 | 10650 | | |
| Lake Huron do | 10 | 502 | 51 | 131 | 18110 | 366 | 152200 | 35200 | 37 | 7350 | | |
| River and Lake St. Clair Division | | | | 57 | 1159 | 221 | | | | | | |
| Detroit River Division | | | | 25 | 724 | 106 | | | | | | |
| Lake Erie do | 12 | 163 | 52 | 264 | 18775 | 474 | 24600 | 12349 | 4 | 1000 | 3 | 105 |
| Lake Ontario do | 1 | 15 | 2 | 106 | 8880 | 239 | 92000 | 15880 | 197 | 56810 | | |
| Prince Edward and Bay of Quinte Division | 3 | 30 | 9 | 114 | 2130 | 313 | 43500 | 3960 | 3 | 460 | 11 | 220 |
| Lennox, Addington and Frontenac do | | | | 46 | 1170 | 89 | 10500 | 980 | | | 117 | 2350 |
| Wolfe Island and Kingston do | | | | 24 | 580 | 29 | 4575 | 577 | | | 23 | 650 |
| Rockport, Brockville and Cornwall do | | | | | | | | | | | 45 | 463 |
| Prescott, Russell and Carleton do | | | | | | | | | | | 40 | 350 |
| Leeds and Lanark Division | | | | 8 | 107 | 38 | | | | | 34 | 600 |
| Renfrew County do | | | | | | | | | | | | |
| Lake Nipissing do | | | | 4 | 96 | 9 | 3800 | 266 | | | | |
| Parry Sound and Muskoka Division | | | | | | | | | | | | |
| Wellington County Division | | | | | | | | | | | | |
| Lake Simcoe Division | | | | | | | | | | | | |
| Lake Scugog and River Division | 1 | 15 | 3 | 200 | 3000 | 150 | | | | | | |
| Victoria County Division | | | | | | | | | | | | |
| Peterboro' do | | | | | | | | | | | | |
| Totals. | 61 | 1614 | 263 | 1277 | 102131 | 2782 | 1369738 | 229462 | 27554 | 30512 | 283 | 4738 |

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Materials, &c.—Province of Ontario—Concluded.

| NAME OF DIVISIONS. | KINDS OF FISH. | | | | | | | | | | | | | VALUE. \$ cts. | |
|---|---------------------|-----------------|-------------|-----------------|-------------------|----------------------|------------|----------------|------------------|------------|---------------|------------|-------------------|-------------------|------------------------|
| | Whitefish, barrels. | Whitefish, lbs. | Trout, lbs. | Trout, barrels. | Herring, barrels. | Herring, Fresh, lbs. | Elas, lbs. | Sturgeon, lbs. | Maskinongé, lbs. | Bass, lbs. | Pickrel, lbs. | Pike, lbs. | Coarse Fish, lbs. | | Home Consumption, lbs. |
| Lake Superior Division. | 432 | 892000 | 530800 | 807 | | 4000 | | 97400 | | | 90000 | | 45000 | 36300 | 150,713 00 |
| Manitoulin do | 1482 | 2236400 | 731840 | 842 | | | | 104050 | | | 170850 | 7100 | 22200 | 16800 | 293,478 00 |
| Georgian Bay do | 540 | 2858000 | 2444000 | 760 | 332 | 12000 | | 21000 | 5000 | 114000 | 464300 | 31000 | 26400 | 131000 | 530,498 00 |
| Lake Huron do | 1511 | 1398200 | 1100650 | 1550 | 4660 | 414700 | | 223750 | | 9200 | 182100 | 300 | 39900 | 213400 | 223,752 60 |
| River and Lake St. Clair Division. | | 20800 | 41000 | | 812 | 138500 | | 12000 | 5910 | 17670 | 142120 | 10580 | 181400 | 34160 | 33,044 50 |
| Detroit River Division. | | 38600 | | | | 59850 | | 34100 | 1040 | 600 | 15050 | 5500 | 54900 | 1000 | 11,159 90 |
| Lake Erie do | | 204322 | 1500 | | 5393000 | | | 590610 | 400 | 134650 | 961350 | 62820 | 552240 | 533000 | 422,464 56 |
| Lake Ontario do | | 8050 | 20760 | 351 | 2087200 | 15400 | | 34400 | 105000 | 128855 | 51500 | 57020 | 373400 | | 118,046 30 |
| Prince Edward and Bay of Quinté Division. | 102 | 218400 | 80000 | 270 | 269500 | 5400 | | 900 | 956 | 2890 | 31700 | 49350 | 330000 | | 55,025 25 |
| Lennox, Addington and Frontenac do | | 158500 | 35200 | | 6000 | 5200 | | | 1000 | 5500 | 55250 | 22800 | 32100 | | 22,020 00 |
| Wolfe Island and Kingston do | | | 2600 | | | 4700 | | 6300 | 1500 | 5200 | | 88700 | 52000 | | 7,317 00 |
| Rockport, Brockville and Cornwall do | | 800 | | | | 12800 | | 4000 | 4500 | 74200 | 3800 | 214800 | 361800 | | 27,564 00 |
| Prescott, Russell and Carleton do | | 1500 | 1600 | | | 6400 | | 4000 | 7400 | 8000 | 9500 | 10000 | 90800 | | 5,406 00 |
| Leeds and Lanark Division | | 1600 | 1800 | | | 400 | | 400 | 2000 | 4000 | 2000 | 2600 | 56350 | | 2,544 50 |
| Renfrew County do | | 1600 | | | | 835 | | 460 | 1900 | 2130 | 2900 | 3450 | 15025 | | 1,424 75 |
| Lake Nipissing do | | | | | | | | 6000 | | | 16500 | 24900 | 46000 | | 3,975 00 |
| Parry Sound and Muskoka Division. | | | 23400 | | | | | | 500 | 4000 | 5500 | 500 | 24000 | | 3,685 00 |
| Wellington County Division | | 6000 | | | | 55000 | | | | 2500 | | 3000 | 42000 | | 6,960 00 |
| Lake Simcoe Division. | | 1500 | 32500 | | | 10000 | | | 26300 | 45400 | 7000 | 43000 | 25000 | | 11,492 00 |
| Lake Simcoe and River Division. | | | | | | | | | 250000 | 100000 | | | 150000 | | 25,740 00 |
| Victoria County Division | | | 1090 | | | 4000 | | | 3000 | 20000 | | | 6000 | | 3,840 00 |
| Peterboro' do | | 2000 | 20000 | | | 5000 | | | 120000 | 100000 | | | 30000 | | 17,350 00 |
| Totals | 4067 | 6782292 | 5074650 | 3959 | 6425 | 8435950 | 125235 | 1132970 | 651406 | 778795 | 2216520 | 637420 | 2556515 | 965650 | 2,009,637 37 |

RECAPITULATION

OF the Yield and Value of the Fisheries in the Province of Ontario, during the Year 1890.

| Kinds of Fsh. | | Quantity. | Prices. | Value. |
|---|-------|-----------|---------|--------------|
| | | | \$ cts. | \$ cts. |
| Whitefish | Brls. | 4,067 | 10 00 | 40,670 00 |
| do | Lbs. | 6,782,292 | 0 08 | 542,583 36 |
| Trout | do | 5,074,650 | 0 10 | 507,465 00 |
| do | Brls. | 3,959 | 10 00 | 39,590 00 |
| Herring, salted | do | 6,425 | 4 00 | 25,700 00 |
| do fresh | Lbs. | 8,435,950 | 0 05 | 421,797 50 |
| Eels | do | 125,235 | 0 06 | 7,514 10 |
| Sturgeon | do | 1,132,970 | 0 06 | 67,978 20 |
| Maskinongé | do | 651,406 | 0 06 | 39,084 36 |
| Bass | do | 778,795 | 0 06 | 46,727 70 |
| Pickarel | do | 2,216,520 | 0 06 | 132,991 20 |
| Pike | do | 637,420 | 0 05 | 31,871 00 |
| Coarse fish | do | 2,556,515 | 0 03 | 76,695 45 |
| Home consumption, not included in the above | do | 965,650 | 0 03 | 28,969 50 |
| Total for 1890 | | | | 2,009,637 37 |
| do 1889 | | | | 1,963,122 80 |
| Increase | | | | 46,514 57 |

STATEMENT showing the Number and Value of Vessels, Tugs and Boats, &c., in Ontario, during the Year 1890.

| Articles. | Value. |
|---|------------|
| | \$ cts. |
| 61 vessels or tugs (tonnage, 1,614) | 115,000 00 |
| 1,277 boats | 102,131 00 |
| 1,369,738 fathoms of nets | 229,462 00 |
| 27,554 do seines | 30,512 00 |
| 285 pound nets | 81,600 00 |
| 283 hoop nets | 4,738 00 |
| Number of men employed, 3,045. | 563,443 00 |

PART II.

REPORT

ON

FISH-BREEDING OPERATIONS

IN THE

DOMINION OF CANADA

1890.

PRINTED BY ORDER OF PARLIAMENT.



OTTAWA:
PRINTED BY BROWN CHAMBERLIN, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY.

1891.

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FISH-BREEDING REPORT.

SUPERINTENDENT'S REPORT ON FISH-BREEDING OPERATIONS, 1890.

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REPORT

—OF—

MR. SAMUEL WILMOT,

Superintendent of Fish Culture for the Dominion of Canada,

FOR THE YEAR 1890.

The Honourable

CHARLES H. TUPPER,

Minister of Marine and Fisheries,
Ottawa.

SIR,—The following report on the condition of, and transactions connected with, fish-breeding operations in Canada during the year 1890, inclusive of other subjects relative thereto, is herewith submitted. The report will include the following matter, namely:—

1. A general statement of the gross output of artificially bred fry from the several fish hatcheries in Canada during the past year, in which will be given the particular numbers, description and species of fry, amounting in the whole to a grand total of 90,213,000 young fish, distributed in many of the waters of Canada.

2. Tabulated statements are also given particularising the numbers and species of young fish and eyed eggs, which were distributed from, and received at, each of the twelve fish hatcheries in the several Provinces of the Dominion during the past season.

3. A schedule will also be found in which the individual quantities are given of the different kinds of fish eggs that were collected and placed in the hatching troughs, and automatic incubators in each of the hatcheries in the several Provinces during the past season of 1890, amounting in the gross to 144,613,000 ova of the superior kinds of fresh and salt water fishes of Canada.

4. Another general statement is given which shows the gross numbers of fry of all kinds which have been bred and turned out of the several individual hatcheries into the waters of Canada since the first inception of the science of artificial fish culture as a governmental work in 1868, making a grand exhibit of 799,757,900 young fish of many species, comprised almost wholly of the higher grades of commercial fish indigenous to Canadian waters.

5. A summary is given of the particular transactions at each of the individual hatcheries which have been in operation during the past year, describing briefly the amount of work performed at each, in relation to the output of fry, the capture of parent fish, the collecting of ova, and the present condition of these establishments, and their wants, together with other remarks of a general character connected with these institutions.

LOBSTER BREEDING.

6. In view of the commencement of the enterprise of breeding lobsters by the artificial methods in Canada during the coming season of 1891, particulars are given relating to a prospecting trip to the newly established lobster and cod hatchery at Dildo Island, in Newfoundland, and of the selection of a site for the erection of a similar establishment on the Northumberland Strait in Nova Scotia; both subjects are

embodied in this report, and views are contained in them setting forth the great necessity that exists for establishing more stringent regulations for the protection of the lobster, and for the prevention of the too general destruction of berried, undersized and immature lobsters, now so largely practised by the lobster fishermen and lobster packers throughout the Maritime Provinces, where this valuable crustacean is at the present time so avariciously sought after. In these papers will also be found other matters relating to the successes attending the artificial breeding of the lobster in Newfoundland and in the United States.

SALMON FISHERIES.

7. The subject of the salmon fisheries and of salmon nets is discussed in a memorandum which was submitted to the Department; it refers more particularly to the system which prevails in the Bay des Chaleurs in the Provinces of Quebec and New Brunswick; and a description is given of the inequality which exists regarding the modes of fishing by fishermen on either side of the bay, and of the relative positions in which the netters and the anglers stand towards each other, with reference to the general maintenance or depletion of the salmon fisheries generally.

FISH LADDERS.

8. Fish ladders or fish passes are also referred to in this report, in which is shown the necessity that exists for the Department to adopt the best and present most practically approved fish way which shall be built in mill dams, or where other artificial and natural barriers exist, in order to allow fish to pass up freely to their natural breeding grounds or rivers, and other waters; and where these barriers now prevent the ascent of these fish, thereby causing the present rapid extermination of fish life in many parts of the country.

SALMON CULTURE.

9. A few extracts from some of the reports of officers in charge of hatcheries are given of the successes attending the transferring of the fry of the Restigouche salmon into waters of the Miramichi River, with a view to acclimatising and introducing the larger Restigouche salmon into the Miramichi, which latter river produces a smaller description of the salmon family. The experiment has been successful.

An interesting account is also given of the successful stocking of the Hudson River, in the United States, with salmon, in which this valuable fish has not been known to inhabit for the past century.

An article on the successful results of planting artificially bred whitefish fry in Lake Erie is also appended.

APPENDICES.

10. In the Appendices to this report will be found the reports of the several officers in charge of the individual hatcheries in operation in the Dominion, in which the more minute details of all work connected with each establishment are fully given.

ANNEX TO THIS REPORT.

11. In the annex to this report will be found certain correspondence relating to the proposed improvement of the whitefish industry in Lake Ontario, by the Commissioners of the State of New York; and also further correspondence between Marshal Macdonald, United States Commissioner of Fisheries, and Honourable Levi P. Morton, Vice-President of the United States, with the report of the United States Congress, for the erection of a United States Salmon and Whitefish Hatching Station on Lake Ontario, which will prove one of the most important stations of the United States Commission of Fish and Fisheries.

An article on the results of fish culture, from *Forest and Stream*, by W. N. Byers, of Columbus, Ohio, in which he defends artificial fish culture against the attacks made upon it by others.

A very instructive paper is also annexed taken from the *Edinburgh Scotsman* on Aquaculture, by George Malcolm, Invergarry, showing the progress of fish culture, its present condition and results in various countries of the world.

1.—GENERAL STATEMENT OF THE OUTPUT OF FRY, AND OF THE COLLECTION OF FISH EGGS AT THE SEVERAL HATCHERIES IN 1890.

The gross output of fry of all kinds from the hatcheries in Canada during 1890 was 90,213,000, as follows:—

| | |
|--|-------------------|
| Atlantic salmon (<i>Salmo Salar</i>)..... | 9,861,000 |
| Pacific salmon, Suckeye (<i>Oncorhynchus nerka</i>)..... | 6,730,000 |
| Salmon trout, Great Lakes (<i>Naymacush</i>)..... | 8,721,000 |
| Brook trout, rivers and streams (<i>Fontinalis</i>)..... | 376,000 |
| Whitefish, Lake Region (<i>Coregoni</i>)..... | 42,525,000 |
| Pickereel, doré (<i>Luciopercha</i>)..... | 22,000,000 |
| Total | 90,213,000 |

2.—The following table gives a statement of the numbers of the young fish and semi-hatched eggs that were distributed from each of the hatcheries during 1890. The name of each hatchery in each of the Provinces is shown on the schedule, opposite which is given the gross number of fry, and the species which were put out from each nursery, together with the quantities of eyed-eggs sent from, and received at, some of the hatcheries.

The particular lakes, rivers and other waters in which the fry were planted, will be found minutely described in the reports of the several officers in charge of each of the establishments, in the appendices hereto attached.

SCHEDULE showing the Number of Fry and Eyed-eggs Distributed from the Individual Hatcheries in 1890.

| Number. | Hatchery. | Fry Put Out. | Eyed-eggs sent to other Hatcheries. | Eyed-eggs Received from other Hatcheries. | Description of Fish. |
|---------|----------------------|-------------------|-------------------------------------|---|----------------------|
| 1 | Fraser River, B.C. | 6,640,000 | | | Salmon, sea. |
| 2 | Sydney, C.B., N.S. | 1,953,000 | | | do |
| 3 | Bedford, N.S. | 1,480,000 | | | do |
| | do | 370,000 | | 500,000 | Salmon trout. |
| | do | 10,000 | | 15,000 | Speckled trout. |
| | do | 2,000,000 | | 2,000,000 | Whitefish. |
| 4 | Dunk River, P.E.I. | Not in operation. | | | |
| 5 | St. John River, N.B. | 482,000 | | 500,000 | Salmon, sea. |
| | do | 1,000,000 | | 1,500,000 | Salmon trout. |
| | do | 10,000 | | 15,000 | Speckled trout. |
| | do | 2,000,000 | | 2,000,000 | Whitefish. |
| 6 | Miramichi, N.B. | 1,022,000 | | | Salmon, sea. |
| 7 | Restigouche, Que. | 2,396,000 | 525,000 | | do |
| 8 | Gaspé, Que. | 806,000 | | | do |
| 9 | Tadoussac, Que. | 1,700,000 | | | do |
| 10 | Magog, Que. | 1,600,000 | | 2,000,000 | Salmon trout. |
| | do | 1,275,000 | | 2,000,000 | Whitefish. |
| 11 | Newcastle, Ont. | 4,700,000 | 5,500,000 | | Salmon trout. |
| | do | 2,750,000 | | 3,000,000 | Whitefish. |
| | do | 284,000 | 105,000 | | Speckled trout. |
| 12 | Sandwich, Ont. | 30,000,000 | 15,000,000 | | Whitefish. |
| | do | 22,000,000 | | | Pickereel, doré. |
| 13 | Ottawa, Ont. | 112,000 | | 175,000 | Salmon, sea. |
| | do | 1,051,000 | | 1,500,000 | Salmon trout. |
| | do | 70,000 | | 75,000 | Speckled trout. |
| | do | 4,500,000 | | 6,000,000 | Whitefish. |
| | Totals | 90,213,000 | 21,270,000 | 21,270,000 | |

3.—FISH EGGS COLLECTED AND PLACED IN THE HATCHERIES IN 1890.

The following table will show the numbers and descriptions of fish ova collected and put in the troughs and incubators of the individual hatcheries throughout the Dominion in 1890. The Magog, St. John River and Ottawa Hatcheries are supplied at the proper season of the year with their quota of impregnated eggs from the Newcastle and Sandwich nurseries in Ontario; and in the case of salmon ova for the St. John River Hatchery, from the Restigouche establishment in Quebec. The total number of eggs collected, as shown below, amounted to 144,613,000.

| No. | Hatchery. | Province. | No. of Eggs. | Species. |
|-----|-----------------------|---------------------------|--------------|-------------------------|
| 1 | Fraser River..... | British Columbia..... | 3,861,000 | Pacific salmon. |
| 2 | Sydney..... | Nova Scotia..... | 1,218,000 | Atlantic salmon. |
| 3 | Bedford..... | do..... | 400,000 | do |
| 4 | Dunk Biver..... | Prince Edward Island..... | | Not running at present. |
| 5 | *St. John River..... | New Brunswick..... | | |
| 6 | Miramichi..... | do..... | 810,000 | Atlantic salmon. |
| 7 | Restigouche..... | Quebec..... | 1,800,000 | do |
| 8 | Gaspé..... | do..... | 1,020,000 | do |
| 9 | Tadoussac..... | do..... | 1,879,000 | do |
| 10 | *Magog..... | do..... | | |
| 11 | Newcastle..... | Ontario..... | 11,125,000 | Salmon trout. |
| | do..... | do..... | 500,000 | Brook trout. |
| | do..... | do..... | | Whitefish. |
| 12 | Sandwich..... | do..... | 90,000,000 | do |
| | do..... | do..... | 32,000,000 | Picherel, doré. |
| 13 | *Ottawa..... | do..... | | |
| | Total Eggs, 1890..... | | 144,613,000 | |

* These hatcheries will obtain their supplies of semi-hatched eggs from Newcastle and Sandwich during January or February next.

4.—GRAND TOTAL OF YOUNG FISH OF ALL KINDS PUT OUT OF THE SEVERAL CANADIAN FISH HATCHERIES FROM THE ORIGIN OF THE INDUSTRY UP TO THE PRESENT TIME, 1890.

The following schedule shows the gross output of fry of all kinds, from each hatchery in each Province, the name of the hatchery, the Province where located, the year in which they were each established exhibiting a total number of fry of all species amounting to 795,757,700 :—

STATEMENT showing the Places where, and the Years in which the several Fish Hatcheries have been erected; also the number of Fry distributed from each Establishment, annually, since they were built.

| YEAR | ONTARIO. | | | QUEBEC. | | | NEW BRUNSWICK. | | NOVA SCOTIA. | | PRINCE EDWARD ISLAND. | BRITISH COLUMBIA. | TOTALS. | | | |
|------------|-------------|--------------|------------|-------------|-------------|-------------|----------------|--------------|--------------|-------------|-----------------------|-------------------|-------------|---------|-------------|---------------|
| | Newcastle. | Sandwich. | Ottawa. | Magog. | Tadoussac. | | Gaspé. | Restigouche. | Miramichi. | | St. John River. | Bedford. | | Sydney. | Dunk River. | Fraser River. |
| | | | | | Fry. | Fry. | | | Fry. | Fry. | | | | | | |
| 1868-1873. | 1,070,000. | | | | | | | | | | | | | | | 1,070,000 |
| 1874. | 350,000. | | | | | | | | | | | | | | | 510,000 |
| 1875. | 650,000. | | | | | | | | | | | | | | | 1,570,000 |
| 1876. | 700,000. | 8,000,000. | | | | | | | | | | | | | | 9,655,000 |
| 1877. | 1,300,000. | 8,000,000. | | | | | | | | | | | | | | 13,451,000 |
| 1878. | 2,605,000. | 20,000,000. | | | | | | | | | | | | | | 27,042,000 |
| 1879. | 2,602,700. | 12,000,000. | | | | | | | | | | | | | | 21,654,700 |
| 1880. | 1,923,000. | 13,500,000. | | | | | | | | | | | | | | 21,013,000 |
| 1881. | 3,300,000. | 16,000,000. | | | | | | | | | | | | | | 22,949,000 |
| 1882. | 4,841,000. | 44,000,000. | | | | | | | | | | | | | | 55,794,000 |
| 1883. | 6,053,000. | 72,000,000. | | | | | | | | | | | | | | 83,784,000 |
| 1884. | 8,800,000. | 37,000,000. | | | | | | | | | | | | | | 53,143,000 |
| 1885. | 5,700,000. | 68,000,000. | | | | | | | | | | | | | | 77,224,000 |
| 1886. | 6,451,000. | 57,000,000. | | | | | | | | | | | | | | 63,949,000 |
| 1887. | 5,130,000. | 56,500,000. | | | | | | | | | | | | | | 61,773,000 |
| 1888. | 8,075,000. | 56,000,000. | | | | | | | | | | | | | | 64,119,000 |
| 1889. | 5,846,500. | 21,000,000. | | | | | | | | | | | | | | 26,846,500 |
| 1890. | 7,736,000. | 52,000,000. | 5,733,000. | 2,875,000. | 1,700,000. | 806,000. | 2,396,000. | 1,022,000. | 3,492,000. | 3,860,000. | 1,953,000. | | | | | 795,757,900 |
| Totals. | 73,134,000. | 541,000,000. | 5,733,000. | 13,050,000. | 14,813,000. | 10,149,000. | 17,901,000. | 12,122,000. | 17,702,200. | 26,555,000. | 10,730,500. | 6,145,000. | 25,705,000. | | | 795,757,900 |

The particular descriptions of Fry above enumerated were as follows:—

Salmonidae—Atlantic and Pacific salmon, salmon trout of the Great Lakes, and speckled trout of the Streams 201,767,000
do Whitefish (*Coregonus*) of the Great Lake region 377,775,000
Percidae—Pickerel, or Dore (*Lucioperca*) and Black Bass 216,215,900

Grand Total of all kinds 795,757,900

NOTE.—In addition to the above written 73,134,000 fry distributed from the Parent Establishment at Newcastle, there has been transferred from this institution to the Eastern Province Hatcheries 34,200,000 of semi-hatched ova. Grand total, 107,334,000.

In like manner the Sandwich Nursery has transferred 50,500,000 of eyed eggs to other hatcheries, exclusive of the 541,000,000 of fry put out.

5.—SUMMARY OF TRANSACTIONS OF EACH OF THE HATCH- ERIES IN THE DOMINION DURING THE SEASON OF 1890.

1.—FRASER RIVER HATCHERY, BRITISH COLUMBIA.

The crop of young salmon of the suck-eye family put out of the Fraser River Hatchery during 1890, was larger than formerly, amounting in the whole to 6,640,000. They were planted in some of the most important lakes and rivers of British Columbia, where reasonable means of transportation was at hand for safely performing the work. The distribution throughout was satisfactory and safely accomplished.

The capture of parent salmon during the past autumn was considerably less than formerly. The operations were commenced somewhat later in the season, when freshets set in swelling the streams and bringing down debris of all kinds, breaking open the pens or reservoirs containing the parent salmon and allowing them to escape; the consequence was only 3,861,000 eggs were collected; about one-third of the quantity obtained in 1889. These were placed in the hatchery in very fair condition, and are doing well at the present time.

Certain repairs were required to put the hatchery and water supply in good working condition. This has been done, but it is suggested that further improvements should not be of an extensive character in view of the contemplated erection of a more commodious and convenient hatchery on Morris Creek, some distance up the Harrison River, where the parent salmon can be easily captured earlier in the season and kept alongside in a safely constructed reservoir until required for spawning purposes; thus insuring a certainty of procuring full supplies of eggs, and avoiding the doubts and uncertainties which has hitherto prevailed in collecting eggs in the open river by netting later on in the season. It is confidently expected that by the building of a hatchery at Morris Creek with the reservoir attached, ample accommodation will be had for putting down 20,000,000 to 25,000,000 of eggs annually.

The present hatchery from the good work it has already done, with its small accommodation, for improving the Fraser River fisheries from the general report of the salmon canners and the public generally, warrants the early construction of a larger and more commodious establishment at Morris Creek.

2.—SYDNEY HATCHERY, CAPE BRETON, PROVINCE OF NOVA SCOTIA.

There were hatched and distributed from this hatchery in 1890, 1,953,000 young salmon of the *salar species*. They were put in some twenty of the more important rivers and brooks in the several counties of Cape Breton. On account of the lateness of the application for fry for Mabou River, last season, none were put there; this river will receive due consideration another year.

The collection of eggs last autumn was fairly satisfactory; several rivers were netted, and 437 parent salmon were caught, 342 of these were females, and gave 1,218,000 eggs. The heavy rains which prevailed enlarged the rivers and made the capture of salmon less successful, otherwise a larger crop of eggs would have been secured. The eggs to all appearances are doing well, and a large crop of fry may be expected.

The hatchery is in good repairs, having undergone a general overhauling by putting down new floors, sills, &c., which had become much decayed. The only requirement now will be painting, when the establishment may be quite complete for the next ten years.

Satisfactory reports are given of an evident increase of salmon in the streams where fry have been planted, from the Sydney Hatchery, in past years. It is suggested that fry of the land locked salmon should be put in certain lakes near Margaree, as at present these waters are useless for the want of some fish in them.

3.—BEDFORD HATCHERY, PROVINCE OF NOVA SCOTIA.

Unqualified success is reported to have taken place with the hatching and distributing of fry from this hatchery during 1890. The difficulties experienced in hatching salmon trout fry in former years were overcome, and the yield proved most satisfactory.

About 500,000 of the salmon trout eggs, and 2,000,000 of whitefish ova, were obtained from the Ontario hatcheries, and placed in the Bedford nursery in good condition.

The fry from these eggs were planted in various lakes in several of the counties of Nova Scotia, amounting in the gross to about 2,370,000. In addition to these fresh water fishes, there were also put out from this hatchery 900,000 of the sea salmon, making a grand total distributed of 3,850,000 fry.

Six subsidiary hatcheries have been established in the more distant counties from the head establishment at Bedford, where they have proved to be most satisfactory for helping in the general work of fish culture in Nova Scotia. Semi-hatched eggs are transferred to these small provisory hatcheries from the larger one, at certain times, and there hatched; whereas fry could not be sent to these localities by reason of their remoteness, and the impossibility of carrying fry to them at the season in which the young fish require to be put out. These subsidiary hatcheries proving to be of such service, it is in contemplation to build others in other counties in Nova Scotia, where the benefits from artificial fish culture are anxiously sought for. It is contended that whilst the benefits already realized from fish culture are very satisfactory, yet the work has been carried out on too limited a scale to give such general effect to artificial culture as the exigency demands.

The usual success did not attend the collection of eggs the past season, difficulties of various kinds interfered in the capture of the requisite number of parent salmon. Heavy freshets carried the fish beyond reach in the Musquodoboit River—the usual place of dependence for procuring eggs. Wallace River was then resorted to, where a number of salmon were netted and impounded, awaiting the spawning time. A work of vandalism was done by certain of the inhabitants, by which the reservoir for keeping the salmon in was destroyed, and the mother fish killed and carried away, thus causing the loss of 54 parent fish laden with some 500,000 ripe fruitful eggs. This act of these miscreants has lowered the usual supply of ova for the Bedford Hatchery this season. These poachers remain as yet undiscovered. From the above misfortunes only 400,000 eggs were laid down, barely one-fifth of the previous year's supply. Timely preparations were made by which a largely increased supply of water was brought into the hatchery, anticipatory of enlarged operations during 1890-91, which will not now be realized from the wanton destruction of the parent fish as related. It is proposed to supplement this season's reduced supply of salmon eggs, by transferring numbers of salmon-trout and whitefish eggs from the Newcastle and Sandwich Hatcheries in Ontario to Bedford.

Some minor repairs are required in the way of mending and painting the roof, and strengthening a portion of the foundation dividing the hatchery from the dwelling part of the establishment.

4.—DUNK RIVER HATCHERY, PROVINCE OF PRINCE EDWARD ISLAND.

This hatchery has not been running since 1888. Arrangements are being made by which the whole establishment will be put in order for fish cultural purposes for the coming season of 1891.

5.—ST. JOHN RIVER HATCHERY, PROVINCE OF NEW BRUNSWICK.

This hatchery has been supplied with semi-hatched eggs from the Restigouche, Newcastle and Sandwich nurseries for the past three years. The eggs of the "salmo salar" are obtained from the Restigouche Hatchery, and eggs of the salmon-trout and whitefish are supplied from the two latter hatcheries in Ontario. Prepa-

rations are being made to secure supplies of parent fish from the St. John Harbour fishermen, and impound the salmon in some convenient reservoir, until the spawning time, when the eggs will be gathered and conveyed to the St. John nursery for hatching. By this means, it is contemplated, full supplies of ova will be obtained without trespassing upon the stock deposited in the several hatcheries in other parts of the Dominion. About 4,000,000 of eyed-eggs of the salmon, salmon trout, and whitefish were transferred in this way to the St. John Hatchery during 1890. These were duly hatched and distributed, where applied for, in many of the lakes and rivers of New Brunswick. The work throughout was performed most successfully. A considerable amount of repairing has been performed on the hatchery during the past year, which will place the establishment in a first-class condition for work for some years to come.

The officer in charge reports the taking of salmon trout and whitefish in some of the waters where fry were planted from this hatchery in former years and in waters, too, which these fish were not formerly known to inhabit. Evidences which are to hand from several reliable persons and fishermen.

6.—MIRAMICHI HATCHERY, PROVINCE OF NEW BRUNSWICK.

The work at this institution resulted very satisfactorily, from the fact of no less than 1,022,000 of the young of the Atlantic salmon having been turned out from it into the principal tributaries of the Miramichi River. The experiment of planting some of the fry of the Restigouche salmon, which had shown such satisfactory results in the capture of adult fish of that family from previous years' plantings, was renewed during the past year, by a further transfer of about 40,000 Restigouche fry to the waters of the North-West Miramichi River.

Difficulties attended the collection of the usual supplies of eggs here during the past autumn. Although the parent salmon were very plentiful in the river, yet the extreme freshets which prevailed last season prevented the possibility of capturing the necessary stock of salmon to fill the hatchery with its accustomed quantity of eggs. It was only possible to net 195 fish, of which 111 were females, which gave 810,000 eggs. This number was much below that of 1889.

It is proposed to overcome this difficulty of capturing parent salmon during the heavy autumn freshets, by making preparations to catch them from the earlier runs and impound them till required, in like manner as at some of the other hatcheries where the system has been worked out with the utmost satisfaction.

During the past season certain necessary repairs have been made to the buildings, dams and other appliances, which will place this institution in proper working condition for many years to come.

Appended to the main report will be found many certificates from the most reliable sources to show the undoubted benefits which have resulted from the putting out of young salmon from this hatchery during former years.

7.—RESTIGOUCHE HATCHERY, PROVINCE OF QUEBEC.

The output of salmon fry from this hatchery was considerably in excess of any previous year, the number reached 2,396,000. They were planted largely in the Main Restigouche River, and also in many of its tributaries, and in other rivers elsewhere as follows:—

The Kedgwick, Upsalquitch, Metapedia, Caraquet, Jacquet, Nipisiquit, Middle and Miramichi. In addition to this number of young salmon, there were also transferred to the St. John River Hatchery 500,000 semi-hatched ova, thus making a grand total of 2,869,000 salmon fry and eyed eggs put out of the Restigouche Hatchery in 1890.

The quantity of eggs procured the past season of 1890 was far below that of 1889, caused by the first and largest run of salmon having passed up river during the prevalence of an extraordinary high freshet, which prevented the setting or working of the nets in the river. Only 307 fish were secured, 175 of these were females, which gave 1,800,000, a trifle over half obtained in 1889.

The Departmental net hitherto set at the Mission Point Station has not done as well as was expected; it is therefore proposed to remove from this station further up the river to Pitt's Creek nearer to the reservoir, where a trial was made late in the season with a certain amount of success.

The several nets in use will require repairing, and a new net will also be required for next season. The reservoir will require strengthening with new timbers, cross-ties, stakes, and wire netting, at a probable cost of \$200; certain other repairs will also be required to the hatchery, such as painting the roof, plastering the ceilings to give additional warmth, more distributing cans and other matters costing about \$200. The estuary and coast salmon fisheries were not quite up to the average, by reason of the unprecedented freshets from the river, which carried away and otherwise damaged these nets. Fly fishing, however, up river after the subsidence of the floods was never known to be better. The pools and river generally were unusually full of fish. From the improvement of angling on the river of late years property has risen to almost fabulous prices, caused by the prevailing opinion of those well acquainted with the subject, from the protection given for the natural spawning of the salmon, and the very liberal annual planting of young fry from the Restigouche Hatchery.

8.—GASPÉ HATCHERY, PROVINCE OF QUEBEC.

The number of fry bred at this hatchery in the season of 1890 was 806,000. They were planted in the St. John, York and Dartmouth Rivers, all emptying into the Gaspé Bay, near to where the hatchery is located. The planting was performed satisfactorily during June and July.

The Departmental nets for netting parent fish were kept down from 4th June till 1st September. The total number of salmon caught and purchased was 83, of these 50 were females and gave 620,000 eggs. These were supplemented by a further number of 400,000 collected from salmon taken in the York River later in the fall, making a total of 1,020,000.

The hatchery is reported to be in first-class condition, excepting painting on the outside which will cost about \$30. Considerable damage was done to the trap-nets and reservoirs, from the great freshet which appears to have prevailed generally throughout the Provinces. These repairs will require early attention at the coming spring.

Net fishing and angling are reported to have been satisfactory. There were a large number of nets set in the tidal waters, and they had a successful year. They make a heavy drain upon the rivers. With this improved catch the conclusion is that the work of protection and propagation is conferring benefits to those engaged in the salmon industry.

9.—TADOUSSAC HATCHERY, PROVINCE OF QUEBEC.

One million seven hundred thousand salmon fry were put out of this hatchery last year in the several tributaries of the Saguenay River and in some small lakes which discharge into the St. Lawrence. A steam tug was employed to convey the fry to the Upper Saguenay. They were all put out under the personal oversight of the officer in charge of the hatchery.

The Departmental nets were put out in May; the first fish were caught on the 27th, and, up to the 3rd July, 980 salmon were caught, when the nets were taken up by instructions. If the nets had been kept down the rest of the season the probabilities are that this number might have been nearly doubled, as about the beginning and during the month of July the salmon principally pass up river. The Sunday close time was kept, giving only 33 days' fishing, in which an average daily catch of 30 salmon was made. This catch is almost unprecedented. Some days the catch ran thus: 71, 81, 93, 102, the highest being 111. Of the 980 captured only 325 were kept for hatching purposes; the remaining 655 were set at liberty without any

injury. Of the number kept 185 were females, from which an average of about 10,000 eggs each were gathered, making a total of 1,879,000 ova laid down in the hatchery and completing the work of spawning on the 15th November.

The increase in the catch of salmon in that immediate district is truly phenomenal. With exactly the same number of nets set by fishermen the increase has been very great from 1886 to 1890. In 1886, 14,790 lbs. were taken; in 1890, 61,000 lbs. were caught, and this does not cover the actual quantities, as the fishermen invariably give in smaller returns in order to prevent, as they think, an increase in their license fees. The accounts from the anglers and guardians of the St. Margaret River, especially, are most gratifying as to the immense number of salmon seen in it; they report seeing and counting 100 salmon in passing through a single pool. The guardians on the other rivers also give similar pleasing accounts of the great numbers of fish seen by them. Even as far up as the River Shipshaw, at the upper waters of the Saguenay, salmon were reported as plentiful. Large schools of small sized salmon, about 25 inches long, were seen passing up and down the Saguenay, in the neighbourhood of the wharf near the hatchery. About 100 of these on the 18th November came into the reservoir at the hatchery and mixed with some of the parent salmon which had not yet left the pond. The evidence from all quarters was most satisfactory.

Extensive repairs are necessary to make the present old dilapidated hatchery suitable to carry on the work in the future. Decay has set in throughout in the foundations of the building, which rest largely upon slabs built up from the refuse which collected when the building was originally run as a saw mill.

The proposition made by the officer in charge regarding the hatchery is entitled to the favourable consideration of the Department, namely, to dispense with any further expenditure upon the old building at Tadoussac and put up a new one at or near Chicoutimi on the Shipshaw River, where all desirable conveniences are to be had, both for hatching and distributing purposes, and where the results would be more beneficially and economically experienced than is the case at the present site at Tadoussac.

10.—MAGOG HATCHERY, PROVINCE OF QUEBEC.

This hatchery is supplied with its quota of eggs from the Newcastle and Sandwich establishments in Ontario. From the semi-hatched ova obtained in this way, some 3,900,000 fry of the whitefish and salmon trout were hatched and put out of the Magog Hatchery into the lakes in the Counties of Megantic, Stanstead, Brome and Sherbrooke.

Reports from fishermen and others living along the lakes go to show that an increase in the catch of salmon trout and whitefish is apparent. The increase in the salmon trout is slower on account of the extensive poaching carried on in the large areas which the present too limited number of guardians have to oversee. Some small repairs and some additional apparatus will be required for the hatchery.

11.—NEWCASTLE HATCHERY, PROVINCE OF ONTARIO.

The work in this primary institution for artificial fish culture in Canada was quite successful during the past year. There were transferred from this hatchery to the Lower Province nurseries 5,500,000 semi-hatched eggs of the salmon trout, speckled trout and whitefish species. There were also distributed in numerous lakes, rivers and streams in Ontario 7,841,000 fry of the salmon trout, speckled trout and whitefish, making a grand total of 13,441,000 fry and eyed-eggs put out of the Newcastle establishment, all of which are reported to have been distributed in good condition. The several waters in which they are planted are particularly described in the Newcastle report in the appendix.

Certain repairs were made which will make the hatchery efficient for work for a length of time; the outside of the building, however, requires re-painting, as many years have passed since it was first painted. This should be done in the coming

spring to prevent further outside wear by the weather. The several ponds connected with the hatchery, and the dams, race-ways and other appliances for conducting the water supply to the buildings, are in safe condition.

The work of collecting supplies of ova at Wiarton for Newcastle, as well as the hatcheries in the Lower Provinces, resulted most successfully; some difficulty was experienced in procuring assistance for setting the pound-nets, as few experts at this class of work are to be found. It is expected that one of the regular employees of the hatchery from the experience gained will be able to perform this work another season.

The quantity of ova collected at Wiarton the past season was very large and was satisfactorily obtained; upwards of 11,000,000 were collected between the 1st and 23rd November; all of them were safely transported by railway under the immediate charge of an expert, and deposited in the hatching troughs at the Newcastle establishment, where it is reported they are progressing very favourably. The diary connected with the work at Wiarton will be found attached to Mr. C. Wilmot's report in the appendices.

The usual quantities of eyed eggs will be transferred from Newcastle to the hatcheries of the Maritime Provinces at the proper time for their safe transport.

12.—SANDWICH HATCHERY, PROVINCE OF ONTARIO.

From the quantity of whitefish ova deposited in this hatchery in the fall of 1889, 15,000,000 of them in a semi-hatched state, were transferred to other hatcheries in the east, and 30,000,000 produced fry, which were liberally planted in the waters of Lakes Huron, Erie, Ontario and St. Clair, and in the Detroit River. They were put out in good condition, and will no doubt further add to the benefits which have already been experienced by similar deposits of fry in these waters during former years.

In addition to the above described whitefish product from this hatchery, there were also hatched and distributed from it 22,000,000 of pickerel (*doré*) fry; these were also planted in well adapted waters for their after growth. The total of whitefish and pickerel put out of the Sandwich nursery during the season of 1890 amounted to 67,000,000. Improvements which were made during the past summer, will give accommodation for putting down upwards of 100,000,000 of whitefish ova during the breeding season of these fish in the autumn, exclusive of such numbers of the pickerel eggs as may be obtained during their spawning time in the spring of the year. The improvements include the general overhauling of the hatching room, by which its whole area has been utilised for hatching purposes; and specially in the setting up of 600 automatic incubators in place of 350 formerly worked; together with other necessary appliances to facilitate more extended hatching capacity in the establishment generally. These improvements were completed in time for last autumn's work, and have been found to answer the purpose admirably.

The quantities of eggs collected and put in the hatchery during 1890, were as follows:—Whitefish eggs, 90,000,000 in the month of November last; and of pickerel, in April last, 32,000,000. The product of the pickerel eggs have already been referred to, as being put out last spring; whilst the 90,000,000 of whitefish eggs whose period of incubation extends through the winter months, cannot be accounted for till the spring of 1891.

The method of procuring whitefish eggs last fall was more satisfactorily performed, and resulted in obtaining about one-third more in number than in 1889. The quantities being in 1888, 40,000,000; in 1889, 70,000,000, and in 1890, 90,000,000. This satisfactory result was brought about by the Department taking full control of the whitefish fisheries on the Detroit River during the "close season" of the month of November, and enforcing the close time as against all fishermen; and by carrying on the work under the management of the officer in charge of the hatchery. This system should be continued in the future, but upon even a more exclusive plan than in 1890, by which the "close season" shall be inviolably kept by all—and the Department to exercise its own right of capturing sufficient supplies of parent fish, by its own officers, with the necessary plant of nets, and other material requisite to fully perform the work.

Herring which were a short time ago very abundant in the Detroit waters, are showing evident signs of decrease, and the officer at Sandwich suggests the propriety of applying the artificial methods of propagation to sustain if possible this declining fish product of that section of the country. The decline of the sturgeon fishery is also being seriously felt and similar means might also be instituted by which this fish might not become too rapidly depleted, as the present appearances would seem to indicate.

13.—OTTAWA HATCHERY, PROVINCE OF ONTARIO.

The work of artificial fish culture in the city of Ottawa was only practically commenced during the past year, by the hatching and distributing of several millions of fish of various species.

This institution was established at the seat of Government with the view of giving more particular insight into the enterprise of propagating fish by artificial means, and exemplifying to the Canadian public visiting Ottawa, the feasibility of this work, as an important factor for stocking lakes, rivers and other waters, with particular kinds of fish, which had either become greatly reduced from their own original source, or in which they were not hitherto known.

This nursery and Fishery Exhibit connected with it, has become an acknowledged educator not only for the general public, but specially for the citizens of Ottawa and the inhabitants of the surrounding districts, who had not hitherto opportunity of visiting and personally witnessing the practical working of an institution of this kind; the attraction and popularity of which is fully shown by the register book, in which the names of no less than 22,800 persons are recorded as visitors to this hatchery during the first year in which it has been in operation.

The system adopted here is to obtain the requisite supplies of fish eggs in the semi-hatched state, from the Newcastle and Sandwich nurseries. The ova procured are of the species of fish best adapted for the waters in the surrounding counties, and when the fry are hatched out, they are distributed throughout the lakes and streams which may be considered best adapted for them, or where the requests of public bodies, or individuals, may have been made to get them.

The establishment is fitted up on a much less extensive scale than at the other hatcheries, by reason of the space in the lower flat of the fishery exhibition building being somewhat limited. The arrangements are for hatching salmon, trout, speckled trout and whitefish; the appliances for hatching ova are of the latest, and most approved descriptions. There are also a number of aquaria with glass sides in this hatchery put up with the view to exhibit living fish of various kinds and sizes. Thus showing in the establishment the ova with the rudimentary form of the fry inside whilst hatching, and the after growth of the young fish in the aquaria up to certain after stages in its life.

The fish put out of this Ottawa Hatchery during the first year of its operations were as follows :—

| | |
|-----------------------------|-----------|
| Salmon fry, sea salmon..... | 112,000 |
| Salmon trout fry..... | 1,051,000 |
| Speckled trout fry..... | 70,000 |
| Whitefish fry..... | 4,500,000 |
| Total..... | 5,733,000 |

These were distributed in several lakes and streams in the counties in the Ottawa valley.

There are several improvements and additional fixtures yet to be made in this institution to bring it up to the standard it should occupy as a complete representation of fish cultural work at the seat of Government of Canada.

Arrangements are in progress by which supplies of eggs of various kinds of fish will in due time be transferred from Newcastle and elsewhere to fully stock the Ottawa Hatchery for another season's work.

6.—LOBSTERS.

Special report by Mr. Wilmot.

LOBSTERS AND THEIR ARTIFICIAL PROPAGATION.

Connected with this subject will be found an account of a visit to Newfoundland, with the view to obtain practical knowledge regarding the methods of carrying on artificial lobster hatching by the Government of that country, under the direct management of Adolpe Neilsen, an expert in this work, formerly of Norway.

There will also be found herewith particulars relating to another report on the selection of a site for the erection of an establishment for the artificial breeding of lobsters in Canada.

As the result of these two reports, it may be here mentioned that the views submitted, and the site as selected at Bayview, on the Northumberland Strait, near the harbour of Pictou, in Nova Scotia, having been sanctioned by the Government, all necessary preparations are now being made to enter upon the work of lobster breeding next season, during the months of June, July, or during such periods as may be found most advantageous to carry on the enterprise.

The ground has been purchased and the contracts have been let for the erection of the building and the construction of a pier alongside, as well as the putting in of the requisite machinery. The breeding apparatus is being provided for also, and unless from some unforeseen causes, the whole establishment will be in readiness for actual work by the middle of May next.

In connection with this primary nursery for rearing this valuable crustacean at Bay View, it is also in contemplation to introduce amongst the lobster fishermen and canning companies a description of floating incubator, which has been used in Newfoundland during the past season with the most satisfactory results. This floating incubator is simply and cheaply made, and from the accounts given of it by Mr. Neilsen it can be readily worked in almost any sheltered bay or inlet along the coast by any ordinary intelligent fisherman, or other person who may feel desirous of aiding either in a private or public way in the cultivation of the lobster. Mr. Neilsen, at my request, is about sending on one of these incubators as a sample, from which a number may be constructed, with a view to distributing some of them amongst such fishermen and cannerymen as may be disposed to work them, or to aid in resuscitating the lobster industry, which, from over-fishing, is now making such rapid strides towards depletion. In these reports will also be found matter relating to the lobster family which may be considered of interest as showing the vast amount of destruction going on by the present modes adopted in the killing of immature, undersized and berried lobsters.

DILDO ISLAND FISH HATCHERY, NEWFOUNDLAND.

Official instructions were given to me to proceed to Newfoundland, with the view to obtain information regarding the artificial breeding of lobsters, where this industry has been carried on under the patronage and support of the Government of that colony by Mr. Adolph Neilsen, an expert in the science of artificial fish culture, whose practical application to the subject in Norway had made him prominent there in cod and lobster propagation.

The evidently declining state of the codfish in and around the coasts and bays of Newfoundland induced the Government of that Island to enter upon the work of resuscitating these fisheries by introducing the artificial methods of propagation, which, it appears, had been practised with much success in Norway, and where the breeding of lobsters also had been carried on with satisfactory results; and hence it was that the services of Mr. Neilsen were obtained to introduce cod and lobster breeding into the waters of Newfoundland.

From the last year's published reports of the Fishery Commission of that Island, it would appear that this work had been most satisfactory, and from the knowledge

already gained in the matter it was confidently expected that many millions of the young of the cod and the lobster families would be turned out of the Trinity Bay hatchery in future years.

To obtain an insight into the working of this industry from an ocular and practical standpoint, and with a view to its utilization in Canada, was the object of my mission to Dildo Island, on Trinity Bay, where the hatchery is erected, a distance of 100 miles from the city of St. Johns.

Leaving Ottawa on the 5th of June, and taking the most direct route, St. Johns, Nfld., was reached on the 11th, thence to Trinity Bay, arriving at Dildo Island on the 12th June, and remaining there till the 16th. During this stay every facility was given me by Mr. Neilsen to inspect, note and watch the operations going on in collecting codfish eggs, and the *modus operandi* of hatching them. Lobster hatching had not yet commenced; extreme cold weather had somewhat delayed the collection of these eggs, but the delivery of some 700 lobsters at a canning factory near by gave me ample evidence of the particulars relating to the methods pursued for obtaining the ova and of placing them on the apparatus used for hatching them.

Full particulars were also taken by me of the class of building, and of the several appliances connected with it; notes were also taken of all matters which might be found useful for the carrying out of a similar work in Canada, and from what I saw and learned it may be confidently concluded that no serious difficulties can arise to prevent the artificial breeding of lobsters to almost any extent, in any of our maritime Provinces, if judicious locations are chosen and proper care given to prosecute the work.

The great object at starting the undertaking should be to select a suitable point, somewhere on the coast, where the sea water will be strongly saline, free from sedimentary matter, and of low temperature, and, if possible, in the immediate vicinity to places where lobsters are numerously taken to supply canning factories, thus affording the necessary means for securing full supplies of eggs, either from the lobster trappers or from the factories, where usually large numbers of these fish are daily brought in for canning purposes.

Such a location being chosen (and there are no doubt, many of them on the long extent of our coasts), the necessary buildings and appliances should be put up, with the view to permanency; and whilst it may not be contemplated to enter upon the work to the fullest extent required at once, nevertheless the buildings, appliances and all surroundings should be calculated upon such a scale as to afford the facilities for turning out annually lobster fry by the hundreds of millions, in order that the artificial propagation may in a certain degree be somewhat in keeping with the natural production. With this combination, to be strongly reinforced annually by enlarged artificial propagation, with rigid enforcement of proper close seasons for natural breeding, and preventing the killing of immature fish, the recuperation and healthy sustentation of the lobster industries of the country would be happily experienced by those engaged in the lobster trade, as well as by the country at large. But with the present reckless and unlimited scale in the destruction of the millions upon millions of fruitful eggs, with the embryo lobsters just ready to drop from the bodies of the parent fish, and the equally wanton and unwise destruction of the young, undersized lobster, comprising, perhaps, one-third of the total of all going into the factories—too young to reproduce their species—must, in a short time, prove fatal, and eventually exterminate the whole lobster industry of Canada.

DESCRIPTION OF THE BUILDINGS AND APPARATUS.

A brief description of the buildings and appliances generally, connected with the cod and lobster hatchery at the Dildo Island establishment, is herewith given:

The main building is a frame and wooden structure, 75 feet long by 45 feet in width, and two stories in height; the lower flat is principally devoted to breeding purposes, the whole of the floor area being taken up with tanks containing salt water, and hatching apparatus of many kinds adapted for cod and lobster hatching. Glass incubators, as are used in Norway and in the United States, are exclu-

sively operated here for hatching the codfish eggs; whilst the apparatus for lobster hatching consists of many contrivances. The certainty as to which of them is best is not yet fully determined by the Newfoundland Superintendent.

The "Wilmot Automatic Glass Incubator," now in general use in Canada and other countries for hatching the eggs of the Coregoni family, had not been applied to the Dildo hatchery. Mr. Neilsen was, however, of the impression that this jar would be well adapted for the lobster eggs, and he expressed a wish to make a trial of them, if possible, the present season. I therefore, on my return through Halifax, instructed the officer in charge of the Bedford hatchery to forward half a dozen of these jars to Mr. Neilsen, who will make full trial of them and acquaint me of the result. I am of opinion the "Wilmot Jar" can be made to answer the purpose well. This opinion is corroborated by Col. MacDonald, Chief of the United States Fish Commissioners, who, in previous correspondence, has informed me that, having used these jars, he found them suitable for hatching the lobster eggs.

A portion of the lower flat is partitioned off from the hatching room for the engine room, boiler, pumping apparatus, &c., which draws the salt water through wooden pipes some 320 feet from 5 fathoms depth of water in the little cove formed by projecting rocky points in Trinity Bay. The sea water, which is very pure and cold, is forced through this pipe into a large tub or reservoir on the second floor of the building, from which it is run off through a series of wooden pipes and taps into numerous small incubating tanks, in which the glass jars containing the eggs are placed. Three of these tanks are placed steplike, one after the other; and the water is syphoned from one into the other, by which means a continuous upward and downward flow of water is kept up through and amongst the eggs in the glass jars during the whole period of hatching the cod eggs.

The motive power to carry on this work consists of a steam boiler of sufficient capacity to work an 8-horse power "Blake Duplex Pump," capable of supplying 200 gallons per minute if required.

The upper flat of the building is divided off into rooms, such as office, bed rooms, dining room and kitchen, &c. All the employes, some ten in number, are lodged and boarded on the premises. The fresh water for the boiler and for domestic purposes is obtained from a small spring well sunk in rear of the house.

Fronting the hatchery, which is within a few feet of the edge of the cove beach, a short pier or wharf is built out a short distance, making a safe shelter and landing place for the steam launch and other crafts connected with the work of the establishment. A part of this pier is so constructed as to form safe pens or reservoirs for keeping parents codfish, which may be brought in and found to be unripe to deliver their eggs at once.

A small steam launch is attached as an indispensable requisite in the working of this establishment for collecting codfish and lobster eggs from the fishing stations and canning factories, which are situate at various points here and there along the shores of Trinity Bay. The launch is also specially advantageous for the distribution of fry throughout Trinity Bay and elsewhere, where their transport is required.

An estimate of the cost of the Dildo hatchery, as furnished by the Superintendent in round figures, viz:—

| | |
|---|----------------|
| Cost of building complete..... | \$2,500 |
| Cost of boiler, engine and pump..... | 1,600 |
| Cost of machinery, incubators and other apparatus, including steam launch. | 3,400 |
| Total..... | \$7,500 |

Maintenance.

| | |
|--|----------------|
| 60 tons coal for engine and launch at \$4..... | \$240 |
| 3 men as engineers—2 in hatchery, 1 in launch—at \$1.50 = \$135 per month for 6 months..... | 810 |
| 3 men in hatchery at \$1 = \$90 for 6 months | 540 |
| 4 men collecting fish eggs, at \$120 for 6 months..... | 720 |
| 1 housekeeper and servant, at \$12..... | 72 |
| Total..... | <u>\$2,382</u> |

The hatchery is supposed to be run from about 1st May till 1st November.

From the above cost of the Dildo hatchery, the following computation is made as to the probable cost of the construction and maintenance of a lobster hatchery, to be built in any of the maritime Provinces of Canada, thus:—

Say:

| | |
|---------------------------------------|----------------|
| Cost of building (a summer one)..... | \$1,500 |
| Boiler, engine and pumps..... | 1,000 |
| Machinery, incubators, apparatus..... | 1,000 |
| Steam launch, &c., &c..... | 1,500 |
| Total..... | <u>\$5,000</u> |

NOTE.—The boiler, engine and pump at the Sandwich hatchery cost \$770.

Maintenance.

Say:

| | |
|--|----------------|
| 60 tons coal, engines and launch, at \$4..... | \$240 |
| 3 men, engineers—2 in hatchery, 1 in launch—at \$1.50 per diem = \$135 per month, say 3 months..... | 405 |
| 4 men, collecting eggs and taking care of them in hatchery, at \$1.50 = \$6 per diem. or \$180 per month, for 3 months | 540 |
| Incidentals for engine and launch..... | 315 |
| Total | <u>\$1,500</u> |

At the Dildo hatchery six months are occupied in collecting and hatching cod and lobster eggs, the codfish taking up an earlier period than lobster. The period given for lobster breeding in Canada would be three months—say, June, July and August—therefore largely reducing the maintenance for an establishment in Canada as compared with cod and lobster breeding at Dildo.

The result of the within described inspection of the Dildo establishment for breeding codfish and lobsters and from experiments made in Norway and other countries in Europe, and also in the United States, is, that lobster breeding by the artificial method is not a difficult undertaking, and its application might be held to be more favourable and attend with better results in the maritime Provinces of Canada than in the countries above mentioned, from the fact that greater facilities are at hand in Canada for procuring the necessary supplies of the parent lobster, by which almost any quantity of their eggs could be secured, thus giving a goodly supply of seed, which, if properly husbanded and the crop well cared for afterwards by judicious legislation, would undoubtedly give to Canada a superiority over all other countries in the commercial traffic connected with the lobsters industry.

SELECTION OF A SITE FOR LOBSTER HATCHERY IN CANADA.

In connection with my inspection and report relative to the Dildo cod and lobster hatchery in Newfoundland, I desire also to report upon the selection of a site made by me for a lobster hatchery near the Cariboo Islands, on the Northumberland Straits, in the Province of Nova Scotia.

After visiting the Dildo establishment in Newfoundland and returning to Halifax I considered it advisable to examine certain points of the shore of the Newfoundland Strait, in the vicinity of Cariboo Islands, where several lobster factories were located and where it had been represented to the Department that these islands near Pictou harbour gave promise of furnishing all the necessary conveniences for the establishment of a lobster hatchery. Leaving Halifax on the 23rd of June, I reached Pictou the same day, and learned that lobster fishing was being largely carried on along that coast, and that within a distance of some 20 miles there were then a dozen or more factories in full operation. Upon further enquiry I found out the names of the proprietors of most of them and their particular location, as follows :—

| | Location. |
|--|-----------------|
| 1. Burnham & Morrell, Bayview factory..... | Mainland |
| 2. Hamblin & Sons, Cariboo do | Cariboo Island |
| 3. do | Tony River |
| 4. Burnham & Morrell, Cape John..... | Cape John |
| 5. do McDonald's Cove..... | McDonald's Cove |
| 6. Hogg's factory..... | Pictou Island |
| 7. do do | do |
| 8. McClures factory..... | do |

These were all situated in front of, and westward of Pictou harbour. There are also several other factories, some distance to the eastward of Pictou. These latter I did not visit, nor did I obtain any particulars regarding them except that, a pretty large amount of canning was done at each of them.

With this number of factories so near at hand, I concluded that an abundant supply of lobster eggs might be readily secured, in the event of a lobster hatchery being located somewhere in their neighbourhood, and where the requisites of shelter and purity of water were at hand, also, for the satisfactory working of such an establishment.

PROSPECTING FOR A SITE FOR THE HATCHERY.

Occasion was therefore taken to closely prospect the coast line from Pictou harbour westward to Cape John, some twenty-five miles, and also the shores of the Cariboo Islands to find, if possible, a convenient site for locating a hatchery. This was satisfactorily accomplished in selecting a well adapted spot, almost immediately alongside the Bayview factory, on the mainland, opposite to Little Cariboo Island—a place almost completely sheltered from any winds or storms which might prevail in the Strait outside.

Here the water is constantly in motion, and highly aerated, from the rapid running of the tides through the narrow passage (which separates Little Cariboo Island from the Mainland) into Cariboo Harbour, which extends westward many miles. This site, so well protected, is shown *in red* on the small tracing of the harbour and islands hereto appended. The conveniences of this spot are certainly most favorable, not only by reason of the sea water regularly flowing through the narrow inlet immediately in front, but also from the depth of water of some 4 and 5 fathoms within 100 feet of the shore, thus requiring only a short length of piping to draw the cold sea water into the building, which could be placed within 100 feet of the Bay, view lobster factory, where certain supplies of eggs could always be depended upon. This site, furthermore, possesses the advantage of being centrally situated for the other factories westward, and for the 3 large factories on Pictou Island, only 6 miles out in the Strait. A hatchery here would, therefore, have no less than 8 large canning establishments to procure eggs from, and not counting the factories which are situated to the eastward of Pictou harbour. Another great advantage would be its closeness to the town of Pictou, only 4 miles distant, where ready means are at hand for procuring building material, and where engine and boiler making is carried on, having easy approach by railway and affording facilities for getting supplies of all kinds. Comprising all these advantages, this proposed site is a most desirable one to commence the enterprise of artificial lobster hatching in Canada.

In conversation with Mr. Neilsen, of the Dildo hatchery, Newfoundland, he was strong in the advocacy of pure, cold, strongly saline water for hatching cod and lobster eggs, and that the hatchery should by all means be as near as possible to lobster factories, to warrant full supplies of eggs; and that it should be in a sheltered place from the winds, so that the action of the storms would not stir up and roil the water, and cause sedimentary matter to be conveyed through the suction pipes into the hatching apparatus to foul the eggs.

A site at Cariboo harbour will possess these requisites and many more which the Dildo hatchery, from its remoteness from the inhabited parts, has not or cannot have. The temperature of the water, however, at Dildo, was 44°, whilst at Cariboo it was 58°; but as some ten days had elapsed between the trials at the two places, and hot weather had intervened, no doubt this difference in temperature would be greatly modified. I do not, however, think this would materially affect the case of hatching, as the natural habitat of the lobster at either places would adapt itself to the surroundings actually required for its propagation. Under all the circumstances, I feel safe in reiterating my former opinion, that the site at Lakeview is well adapted for artificial lobster hatching.

EGGS FOR THE HATCHERY—HOW OBTAINABLE.

Whilst the Lakeview site possesses the many advantages above related, I considered it advisable also to find out particulars regarding how the necessary supplies of eggs could be procured for it, if the hatchery were placed there. The result of this investigation gave evidence that almost unlimited quantities of lobster eggs could be secured from the several canning factories near by if satisfactory arrangements were entered into with the several proprietors owning them. Astonishing results were also brought out as to the wholesale destruction which was going on almost daily with the lobster by the method pursued at the several canning establishments which I visited, and from which I have formed my data for the calculations given below; and although only eight of (no doubt) the most extensive and best managed factories on the coast are included, I have no doubt that each factory throughout the several maritime Provinces is pursuing precisely the same course which, if allowed to continue, must sooner or later exterminate the lobster industry of the country.

To obtain knowledge for myself personally, as well as for your Department (if deemed worthy of consideration), I closely noted matters when visiting some of the lobster factories above named, with the view to learn particulars relating to the industry, and to make myself acquainted with the nature of the lobster, as to its re-productive powers, when mature or immature, its fecundity, and other characteristics of its nature, from which I could form an intelligent and reasonable conclusion regarding the natural and artificial production of them, and of the times and modes by which proper legislation might be framed for the present and future protection and maintenance of the lobster wealth of the country, which is now so rapidly declining.

REMARKS AFTER VISITING THE CANNING FACTORIES.

I found the proprietors and employés in every instance most willing to give me every information, and placing no restriction whatever in the way of preventing me from witnessing their operations, or from handling the lobsters in the various stages which they pass through in the work of being handled cooked and canned for the markets. The information almost volunteered to me by the canners regarding the large daily catch, and pack of lobsters at the individual factories which I visited, as well as those which I could not readily reach, was to me somewhat surprising. It must be understood that, as a general rule, the packer buys the lobster from the trapper by weight, not by count—the price being 50 cents for the 100 lbs., which the trapper gets upon delivery at the pier or landing connected with the factory. The account of the daily receipts given me by the several proprietors was

as follows, which covers the general daily average from the beginning of the season, about the 10th or 12th May, till the close of the season on 15th July:—

| Proprietor. | Location. | No. of Lbs. Daily. |
|---------------------------|--------------------|--------------------|
| 1. Morrell & Burnham..... | Bayview..... | 10,000 |
| 2. Hamblin & Sons..... | Big Cariboo..... | 14,000 |
| 3. do..... | Tony River..... | 10,000 |
| 4. Burnham & Morrell..... | McDonald Cove..... | 12,000 |
| 5. do..... | Cape John..... | 15,000 |
| 6. Hogg's factory..... | Pictou Island..... | 12,000 |
| 7. do..... | do..... | 12,000 |
| 8. McClures factory..... | do..... | 16,000 |
| Total..... | | 101,000 |

These figures were given in round numbers by the proprietors. In one or two instances they were taken from their books.

In order to ascertain the number of lobsters comprised in these 101,000 lbs., it will be necessary to add about one-fourth to cover the great quantity of small sized ones, which are so numerous taken. This, then, would give a daily catch brought to these eight factories of 125,000 lobsters, say from 15th May to 15th July, which, if multiplied by the time, 60 days, would give a total of 7,500,000 taken during this part of the season.

It will now be necessary to make further search into this subject, in order to fully comprehend its destructive bearings upon lobster life and the industry connected with it. To do this properly this daily catch of 125,000 lobsters must be analyzed:

1. What proportion of this number would probably come under the term of "berried lobsters," or those taken contrary to the law? After the 15th or 20th of June large numbers of the lobsters are found heavily laden with almost matured eggs, in many instances ready to drop the embryos from their bodies.

2. What proportion of the 125,000 will be found to come under the legal standard of $9\frac{1}{2}$ inches, and may be called immature, that is, not possessing the requisite functions of nature to enable them to reproduce their species? My observations and examinations of several hundred specimens led me to conclude that a very small proportion indeed under 9 inches are "berried" or able to propagate their young; and that very few, if any, under 8 inches have their organs of development sufficiently matured to enable them to be "berried" or reproduce their kind.

Now, taking these views regarding "berried" and "undersized or immature" lobsters to be correct in the main, or even approximately so, the following figures will assuredly show the immense destruction that is continually taking place throughout the whole country illegally, and otherwise, in connection with the lobster business:

| | |
|---|-------------|
| Thus, in this case, say the daily catch to be..... | 125,000 |
| Deduct $\frac{1}{4}$ immature and undersize is..... | 31,250 |
| Balance to be called full size..... | 93,750 |
| One-half of these may be called females..... | 46,875 |
| Take off $\frac{1}{4}$ as unfit for breeding..... | 11,718 |
| Leaving of females..... | 35,157 |
| Scientists give an average of *20,000 each female.... | 20,000 |
| Total eggs from females..... | 703,140,000 |

* The writer has since learned from Prof. Neilson that 20,000 is below the average.

This 703,140,000 would be the daily loss of lobster eggs occasioned by the taking of "berried females" contrary to law, if it went on during the whole season of two months. But it must be borne in mind that whilst the whole season covers two months, the real time in which the "berried female" is principally taken commences about the latter half of the season, say 15th or 20th June, and continues till 15th July.

Now, if the daily products of fruit-bearing eggs is 703,140,000, and the actual time in which they are largely found on the female is from 20th June to 15th July in the open fishing season, 25 days are actually employed by the fishermen in catching "berried" or illegal lobsters—(to say that all "berried" fish are put back into the sea, and that they are not used in the factories, would be simply a distortion of the truth).

The product of this loss at these eight factories alone would be the multiplication of 703,140,000 by 25 days, giving a total of upwards of *seventeen billions five hundred and seventy-eight millions* (17,578,500,000) of lobster eggs and fry, which the present Departmental regulation contemplates saving by not permitting "berried" females to be taken. Yet the regulation is not enforced by the officers; it is violated, and is bringing about speedy extermination of the lobster industry.

It is by such an application of the subject, and by such calculations in relation to it that the immense loss can be comprehended that is now going on in connection with the lobster business of the country; and when it is found that so much destruction is caused by the operations of the within-mentioned eight factories on a part only of the Strait of Northumberland, what must it be with all the other canneries, some 500 in number, along the whole extent of the coasts of the maritime Provinces, where, no doubt, the same ruinous course is being pursued at each of them. The result must soon be to utterly destroy the industry and exterminate the lobster from our shores, and this calamity is already being too truly experienced on many parts of the coast.









From the within related facts, it is fairly shown that in connection with the carrying on of eight lobster factories no less than an average of 1,875,000 immature, undersized lobsters are illegally killed during the two months, and at the lowest calculation some 17,578,500,000 matured lobster eggs, with embryos in them, are cast into the boiling vats of the canneries, all in violation of the law, too. It, therefore, becomes necessary that this wanton destruction of these valuable crustaceans should be stayed, before it is too late to prevent their final extermination.

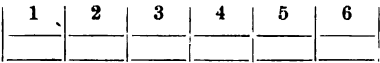
To give some particulars in proof of the statement that lobsters under 9 $\frac{1}{2}$ inches are immature and incapable of reproducing their species, I may state that I opened many of these undersized lobsters at three of the factories, and found no rudimentary signs of fecundity inside or outside of their bodies; while in the larger-sized lobster, eggs were invariably found either inside the body or on the swimmerets, under the tail outside. This circumstance convinced me of the wisdom of the regulation which establishes the legal length at 9 $\frac{1}{2}$ inches (which, in reality, should be 10 $\frac{1}{2}$ or 11 inches). It also impressed upon me the great necessity that existed for your Department in enforcing the 9 $\frac{1}{2}$ -inch regulation to the very letter, and preventing the vast number of undersized, immature fish from being caught in the traps, and daily canned in the factories.

As further evidence of the unfertility of lobsters under 8 $\frac{1}{2}$ inches, I requested the general agent of one of the large packing companies to send me a box that would hold about 50 lobsters of different sizes under 9 inches, to be forwarded to Ottawa, C.O.D., with the view that I might more closely examine them, to discover whether they bore eggs within or outside their bodies. These were very promptly and kindly sent on, as requested. They were boiled before leaving the factory, in order that they would arrive in Ottawa in good condition. Nearly all of them did. I opened all these lobsters personally, and thoroughly examined them, with the result as shown in the notes taken of each and described in the paper herewith attached. The examination of some of these lobsters was witnessed by other persons also. Some whole specimens and parts of others were put in alcohol for obser-

vation in the Museum. It was found in these specimens that no perceptible signs of fertility were to be discovered in any of the lobsters under $8\frac{1}{2}$ inches in length. On one or two samples that measured plump $8\frac{1}{2}$ inches some eggs were found on the outside of the body.

The following are the particulars relating to an examination made with the lot of lobsters received from the Bayview factory, Cariboo Islands, N.S.:—

| No. of Lobsters. | Length of Lobsters. | Square of Body. | Remarks. |
|------------------|---------------------|---|---|
| | Inches. | Inches. | |
| 4 | $6\frac{1}{2}$ | <div>1 $\frac{1}{2}$ </div> | No evidence whatever of eggs inside or outside. |
| 3 | 7 | <div>1 $\frac{3}{4}$ </div> | do do |
| 6 | $7\frac{1}{2}$ | <div>1 $\frac{1}{2}$ </div> | do do |
| 9 | 8 | <div>1 $\frac{3}{4}$ </div> | do do |
| 2 | $8\frac{1}{2}$ | <div>1 $\frac{3}{4}$ </div> | do do |
| *6 | $8\frac{1}{2}$ | <div>1 $\frac{3}{4}$ </div> | "Berried" eggs outside on some of them. |
| | | <div>2 </div> | |
| 8 | 9 | <div>2 </div> | Two berried ; rest apparently males. No eggs. |



Scale of 6 inches.

*It must be considered somewhat exceptional to find any considerable number of $8\frac{1}{2}$ inch lobsters bearing eggs—or, at least, such was the result of a pretty general examination made of a large number of lobsters received at the canning factories

referred to. It is possible, however, that in closely overhauling many thousand a few "berried" $8\frac{1}{2}$ -inch lobsters might be found, and this may have been the case with those sent to Ottawa for examination.

Since the above described examinations were made I have received information from Prof. Adolphe Neilsen, the Norwegian expert in lobster and cod hatching now employed by the Newfoundland Government to manage this industry, and who has been so eminently successful in hatching and turning out upwards of four hundred millions of young lobsters during the past season in the Newfoundland waters by the artificial methods. He thus writes: "As it may be of use to you, I will give you the number of eggs I have found on the lobsters here in Newfoundland, after the most careful count. Thus:—

| | |
|--------------------------------|--------------|
| A 11-inch lobster carries..... | 22,154 eggs. |
| 11 $\frac{1}{2}$ do do | 22,600 do |
| 12 do do | 23,080 do |
| 12 $\frac{1}{2}$ do do | 23,260 do |
| 12 $\frac{3}{4}$ do do | 23,680 do |
| 13 do do | 24,100 do |
| 14 do do | 25,000 do |

The inference to be drawn from Mr. Neilson's practical knowledge of the lobster family is, that he cannot, or that he does not obtain matured eggs from lobsters under 11 inches. It may be possible that some eggs may be got from lobsters under that size, but he does not consider it worthy of mention in his correspondence. He furthermore says: "'Berried' lobsters were seldom found under 8 inches, and more frequently over than under 10 inches."

In my examination of the lobsters their size was considered, and close measurements made as illustrated in the above sketch. From the squares shown of the body size of the several lobsters examined a somewhat proper conclusion may be drawn for regulating the width between the bars or slats of the lobster traps, so that in adopting any regulations regarding legal lobster traps a space shall be left sufficiently wide to allow small-sized lobsters to pass through, and thus prevent the unlimited killing of under-sized and immature fish.

CONCLUSION.

If in the work of nature it was ordained that this wonderful fecundity of the lobster family was requisite to keep up the balance of nature in the general line of marine animals; and if in the wisdom of the Legislature of this country judicious laws have been enacted intended to protect and reasonably sustain this balance of nature, yet give a fair and legitimate supply of this much desired crustacean for man's use and traffic, why should the laws of nature and of the country be allowed to be overridden, and be made of no effect, to gratify the selfish desires of a few persons, for their own immediate aggrandisement, and who also advance special pleas and give erroneous statements regarding the nature and habits of the lobster, with the view simply to obtain more extended privileges for carrying on the work of ruination to the lobster industries of the country?

Surely the sad experience which other countries have already realized by allowing the unrestricted killing of this valuable crustacean should give timely warning to Canada, and cause her to put forth her energies to preserve and maintain in her waters the lobster wealth which she now so largely possesses over almost any other country.

The remedy and means are already to hand, which, if strictly enforced, would yet preserve the lobster industry, and maintain it in a large degree, both for the present and the future:

By a determined enforcement of a properly selected close time;

By the absolute prevention of the killing of under-sized and immature lobsters;

By placing all lobster trappers and packers under license surveillance, with such regulations as will effectually stop the present wicked and destructive methods

carried on in connection with the lobster business, and by supplementing their natural production by entering upon an extensive plan of artificial propagation.

If these means were enforced by parliamentary enactments, and not by Orders in Council, the present constant importuning of the Department would be prevented by interested individuals, companies and representatives from localities, all of whom are constantly pressing for changes to be made in the close season and regulations regarding lobsters from their own local and selfish standpoints, irrespective of the general requirements of the public at large for the preservation and maintenance of the lobster wealth of the country.

Appended hereto will be found a plan of that portion of the Strait where the site for a hatchery has been selected, on which are also shown the locations of the present lobster factories which are within reasonable limits for securing supplies of lobster eggs for the contemplated hatchery. The names of the proprietors of the factories, with the daily catch of lobsters at each, are also shown.

IRREGULARITIES CONNECTED WITH THE CANADIAN LOBSTER TRADE.

There is an unjust and discriminating system allowed to be carried on in favour of the foreign packer as against the Canadian packer and the trade interests of the Dominion.

Some of the lobster packing companies carrying on the canning business in the Maritime Provinces are only temporary residents, being actual residents and citizens of the United States, where they also carry on the lobster-packing business quite extensively. These American companies have been in existence in various parts of the United States for many years, and have established themselves in the lobster industry under well-known "trade marks," represented by brilliantly-got-up labels affixed to each package put up by them, thus conspicuously advertising their goods, and the country in which they are produced, to the general consumer throughout almost every part of the globe where this edible crustacean is eaten.

Finding by over-fishing, and the destructive methods adopted in killing the lobster, which has been permitted by the authorities in the United States, the lobster crop has almost come to an end, these companies have, therefore, in many cases established themselves in the lobster packing business at many important points all along the coasts of the Provinces of Nova Scotia, New Brunswick and Prince Edward Island, where they have found the lobster crop to be far more abundant than in their own country. There they carry on an evidently Canadian industry from the product of Canadian waters, this might not be considered of such an objectionable character if deception, or, in fact, fraud, were not practised, by misrepresenting this actual lobster wealth of the Canadian waters, by advertising it to the world by their "trade marks" and labels as the product of the waters of the United States.

But a still more iniquitous system is also practised, when all the superior qualities of the lobster packages are labelled as the product of American waters, and the inferior qualities are labelled as the product of Canadian waters, whilst all are canned in the same factory and all are caught in Canadian waters.

This evidently irregular and discriminating proceeding in favour of the American lobster packers carrying on the canning business in Canada should be stopped, as being not only injurious to the resident Canadian packer, but also damaging to the commercial interest of the Dominion, in allowing a fraudulent advertisement of an extensive article of trade to go forth to the world at large as the growth and product of the United States, when in reality it is wholly Canadian. I hereto append to my report the following extracts regarding lobster culture in Newfoundland and in the United States.

SUCCESSFUL OPERATIONS IN LOBSTER AND COD HATCHERY, NEWFOUNDLAND.

MR. NEILSEN'S REPORT.

At a meeting of the Executive Committee of the Fisheries Commission on the 24th instant, Mr. Neilsen presented his report on lobster hatching for the present season. From this it appeared that at Dildo hatchery, fifteen millions of lobsters had been hatched and planted. Returns received from nine of the

hatching stations showed that three hundred and sixty-five millions of lobsters had been hatched and set free in the waters. These stations were distributed around Fortune, Placentia, Conception, Trinity and Bonavista Bays. At each station thirty-six floating incubators were employed. The eggs were obtained at the different lobster factories, and would otherwise have been destroyed. The female lobster, as is well known, carries her eggs in a fertilized state under her tail. Before the lobsters are thrown into the boilers these eggs are carefully removed by the men in charge of the incubators and brought to life; and the young have the same chance of surviving as if produced by the natural process and liberated in the waters. There is thus a clear gain of what would otherwise have been devoted to destruction.

Three stations in Green Bay, each having thirty-six incubators, are yet to be heard from. Should they have been as successful as the others it will be found that they have hatched 116,000,000. The result of the whole, in that case, would be, this season, that 480,000,000 of young lobsters have been hatched and planted in the waters of our bays, to sustain this great and valuable fishery. Who will deny after this that the Fisheries Commission is doing a good work?

This is not all. The fishermen around Dildo and in the various arms of Trinity Bay report having seen lately enormous numbers of tom-cods of a much smaller size than they had ever seen before—in fact, not so much as half the usual size. The reports come from various quarters and from a considerable number of fishermen. Mr. Neilsen has verified the reports, and seen the young cod himself, which he considers are beyond doubt the product of his hatchery, the young cod fry which he planted in the early part of the summer having reached this stage of growth. They are present in enormous numbers. This news is of the highest importance, as it gives abundant promise of success in the present effort to re-stock our exhausted waters. It corroborates the experience of the American Fisheries Commission, who have succeeded, in three years, in creating an abundance of codfish, off a portion of the coast of Massachusetts, where till recently there were none, by artificial propagation. Cod-hatching is now proved to be a great success.

COD AND LOBSTER HATCHING.

(From Cape Anne "Advertiser," U. S.)

The fish hatchery on Ten Pound Island is in full tide of successful operation, all but three or four boxes being full. Some seven millions baby cod have recently been liberated, and there are now twenty-six million eggs in the boxes. The Commission's agents go out in shore boats to secure fresh eggs, pressing the spawn and milt from whatever ripe fish are taken, and keeping it in proper condition until they come in. Any immediate overplus of spawn will probably be taken to Wood's Holl.

The hatching of codfish, haddock, &c., first attempted in this country at Gloucester, during the visit of the U. S. Fish Commission here in the summer of 1878, has passed beyond the experimental stage to that of demonstrated success. Large quantities of codfish have been hatched at Gloucester and Wood's Holl, and the benefit has already been seen in the fishing grounds off Cape Ann and at Nantucket Shoals. Last summer and fall many young codfish were taken in the traps and weirs, and the school of fish now being caught off shore are of a size and character to indicate that they are the result of this artificial hatchery.

The restocking of the shore grounds is proving a bonanza to the local fishermen. It is reported that the schooner "Dixie," up to Saturday, had stocked \$3,000 in seven weeks, her crew sharing \$344. Schooner "Lottie S. Haskins" took 4,000 lbs. on her first set in Ipswich Bay. The little sloop "Messenger" stocked \$40 the first day's fishing; and the schooner "William H. Cross," with improvised lines, recently took 5,000 lbs. in one day's hand-line fishing in Ipswich Bay.

The artificial propagation of deep-sea fish has been carried on successfully in Norway for some years, and a hatching station has recently been established at Dildo, Newfoundland, under the charge of a Norwegian expert, where excellent success has been met with in hatching codfish and lobsters, especially the latter.

In the summer of 1885 an interesting experiment was conducted at the Norwegian hatchery at Flodevig by Carl Rognenid, Commissioner. A basin filled with sea water was provided, about 140 x 66 feet, and 16 feet in depth, having a capacity of about 88,000 cubic feet. In this several kinds of sea-plants were placed, and on the 3rd of May, half a million young cod, hatched a week previously, were placed in the tank. The fish at this time were one-fifth of an inch in length.

Their increase in size was carefully marked from week to week, the greatest growth being obtained between 6th June, when they were within a minute fraction of four-fifths of an inch in length, and they began to eat the food furnished them twice a day, and 12th July, when they were 2'17 inches in length; 12th August their length was 2'76; 12th September it was 3'35 and 12th October it was 4'53 inches. These figures give the average length of the fish taken for measurement, the largest one examined at the latter date being 6'18 inches long.

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7.—SALMON FISHERIES OF THE BAY DES CHALEURS.

MEMORANDUM submitted to the Honourable the Minister of Marine and Fisheries by Mr. Wilmot, Superintendent of Fish Culture, regarding the correspondence of certain prominent persons, and the Petition of the Fishermen of the County of Bonaventure, relative to the Salmon Fisheries of the Bay des Chaleurs, together with remarks on the Salmon Fisheries generally and their modes of capture, with the several kinds of nets now employed; also sketches of the various descriptions of Pound, Trap and Stake Nets in use in many of the Coast and Estuary fisheries in the Dominion.

The complaints of the petitions on the Quebec side of the Bay des Chaleurs are:—

(1.) That their compliance with the Sunday close time is injurious to them by reason of the fishermen on the New Brunswick side of the bay being allowed to fish unmolested through this close time.

(2.) That the annual open period for netting salmon is too short, and should be enlarged.

(3.) Because they are compelled to lift and tie up their nets from Saturday night till Monday morning, whilst the New Brunswick fishermen are permitted to keep their nets down and to fish them at this time.

(4.) That the decrease of the salmon fishery by nets is brought about by the abuse of fly fishing up the river.

These complaints were referred to Inspecting Officer Wakeham, of that division, who reported adversely to these petitioners' views, and Mr. Wilmot fully endorses that report, and now in addition enters more largely into the general subject of the salmon fisheries of the Bay des Chaleurs by saying that:—

(1.) The complaint of the petitioners that, "their compliance with the Sunday close time is injurious to them," is no doubt correct, when they see their brother fishermen on the opposite side of the bay are permitted to fish during this close time, and in violation of the regulation forbidding it. To obviate a continuance of this complaint by the Quebec fishermen they should either be allowed to fish during the weekly close time, or that your Department should enforce it against all, indiscriminately, by strictly enforcing the weekly close time against all fishermen alike. But to allow the weekly close-time to be wholly set aside would mean absolute ruination to the salmon fisheries of the Bay des Chaleurs and its tributary streams within a sooner or later period of time.

(2.) The request of the petitioners for a change in the regulations for lengthening the annual fishery season, is simply to obtain for themselves more extended facilities for capturing more fish, whilst it would also add very greatly towards bringing about the destruction of Salmon fisheries by giving additional help to the ruinous effects from the non-observance of the weekly close time.

(3.) With regard to the complaint "of nets being injured from tying up for the Sunday close time,"—this is but an excuse to gain a point. This was never thought of in former years, when all fishermen tied up their nets alike, but since the introduction of the trap-net, which is somewhat more difficult to tie up, a pretext is made by the Quebec fishermen that keeping the Sunday close time so injures their nets that they should be allowed the same privilege as the one usurped by the New Brunswick netters, who, in violation of the law, keep their nets down during the weekly close time. The not only absurd, but selfish statement made, that "the salmon which escape the nets by keeping the Sunday close time are caught further up on Monday," goes to show the true inwardness of these lower netters, who, in fact, say: "We want all the salmon, you upper netters and river fishermen shan't have any if we can help it." Not only do they have the first chances of taking the incoming salmon, but so avaricious are they that they petition for a privilege which means, "no salmon shall pass us to benefit our brother fishermen above, nor reach the spawning grounds to the river for breeding purposes."

(4.) The petitioners allude to the "decrease of salmon being brought about by the abuse of the right of fly-fishing in the Restigouche River." Captain Wakeham meets this fallacious statement pretty clearly; but to his statements should be added others bearing more conclusively, in contradiction of prejudiced ideas entertained by these netters in the tidal waters, whose dependence upon maintaining their catch of salmon for the future rests largely upon the protection given to the rivers by the fly fishermen. The net fisherman, from the nature of his calling, is in no way whatever the protector; he is the destroyer of the salmon. The ambition and calling of the tidal fisherman is to invent and apply the most destructive engines possible, for intercepting, capturing and killing the incoming runs of salmon on their migrations from the sea, on the coast line, to their native rivers, to produce their young; and if it were not for restrictive regulations as to times and modes of fishing, these netters would so bar the passage of salmon to their rivers, by extending their nets out in the bay, and across the estuaries of rivers, as to wholly forbid the possibility of sufficient numbers reaching the spawning grounds to keep up their species. The whole legislation in Canada, in Britain, and throughout the whole world, so to speak, has been to make laws to keep within bounds the avarice of the net fisherman from exterminating these migratory fish, whose nature it is to travel together in "runs" or "schools" within certain short periods of the year to their spawning grounds. In England and in Scotland, after centuries of experience, the netter has been so restricted in the use of the destructive engines which were formerly in use there that at the present time many of the more important rivers continue to uphold almost their original standard of fish,—thus actually benefiting the tidal fishermen, the rivers proprietors, and all concerned.

The policy has been that, while the netter is allowed to take a fair proportion of the salmon for commercial purposes sufficient numbers should be allowed to pass by to benefit the upper proprietors of rivers for angling, and yet leave a sufficient supply of parent fish to breed, and keep up the standard of the river. This has all been achieved by establishing a proper annual close time, and a weekly close time for tidal fisheries, and the use of such description of nets as shall not be too destructive in their operations, and the fixing, also, of a proper close time in rivers to regulate angling. This course has also been adopted for the preservation of the salmon fisheries in the Baie des Chaleurs and its rivers; but the regulations, by reason of expediency and the inefficiency of fishery overseers, have been permitted to be so encroached upon as to become almost useless, and also brought about the outcry so frequently advanced (whether correct or not) that the salmon fisheries are being rapidly exhausted.

It must also be borne in mind that the tidal salmon fisherman is destructive, not protective in his calling, as before stated. He renders no support whatever, pecuniary or otherwise, for guardianship of the rivers and other nurseries which produce for him the supplies of salmon which come to his nets to enrich him. It is the upper proprietors of the rivers, and the anglers who lease them at high rentals, who bear the whole burden of guarding the rivers against the invasion of the poachers, and who are compelled to protect the parent salmon and the spawning beds. The result of which is, that the netter gets the lion's share—and what is this share? If the record of the anglers' catch of salmon on the Restigouche River and its tributaries is taken and placed in comparison with the catch of the netters below in the estuary and coast it will show that, whilst the netter gets some 95 or 96 per cent. of the salmon caught on their migration to their spawning grounds, the angler takes but 4 or 5 per cent. It will be quite within bounds when it is said that the cost of every salmon to the ordinary angler will amount to \$1 per lb., whilst the cost per lb. to the netter will not exceed $1\frac{1}{2}$ cents per lb.

In fact, by an illustration herewith given from the best known records of the catches of the netters and anglers, this widely comparative difference will be shown. It will be necessary to take the only now present available data for this exhibit from the departmental chart of the Baie des Chaleurs salmon fisheries, referred to in the calculations made relative to this whole subject. By this map the

netter will be placed in a better position than the angler, from the fact that not more than one-half the salmon were then taken with the fly, as of later years; but the gross average of the fly catch of the later years will be placed in comparison with the netter's catch. And this exhibit will only show the operations of the netters on the New Brunswick side of the bay, and of the angler on the Restigouche River, it being correctly held that the Restigouche River is the principal breeding river to supply the tidal fisheries on the New Brunswick side. The records, which do not fairly give the netters' full catch, show that on the New Brunswick side, in the counties of Restigouche and Gloucester, there were taken by nets all told 801,555 lbs. of salmon. Allow for the weight of each salmon 20 lbs., and 40,076 will be the number. There are 179 stations for netters, thus giving 224 salmon on an average to each netter.

These salmon will be estimated at \$2 apiece; each netter would thus get \$448.

To offset this, the cost must be considered with his average rate of license fee added. There were 29,137 fathoms of net recorded, which, at 3c. per fathom, would give \$874.11. This sum divided by 179 netters would give the average fee to each of \$4.88. Then, say two months fishing nets at \$50, \$100. Without first costs of nets the expenditure would be \$104.88. Deduct this cost of expenditure from the \$448, and the balance to profit is \$344. Each fish of 20 lbs. will cost the netter about 46½c., or 2¼ cts. per lb., and he realizes a profit per fish of \$1.53½, or, on his whole average catch for the season, a profit of \$344.

The position of the angler is thus: Say a fair average number of days for his fishing to be 20, and the cost per diem for Indians, canoes, tents, scowling, provisions and accommodation cannot be estimated at less than \$10 per diem.

| | |
|--|---------------|
| The 20 days, angling would amount to..... | \$200 00 |
| His privilege or license to fish for the season on any of the Restigouche waters will not be less than..... | 200 00 |
| Average railway fare to and from his residence in New York, Ontario or other parts..... | 50 00 |
| Total | <u>450 00</u> |

The angler's catch may be *nil*, but to give a fair allowance, say one fish a day, or 20 salmon for his 20 days, as shown above, will cost him each \$22.50. He gets nothing for his salmon, as they are invariably consumed or given away; he therefore makes no profit whatever on his catch, like the netter, but expends \$22.50 on each fish taken, or \$1.12½ per lb., all of which is spent amongst the settlers and others for provisions, labour, &c.

The cost of the original outfit of the netter and the angler is about thus: Ordinary price of net, \$100; ordinary outfit for angler not less than \$150, and in many instances reaching double and quadruple this sum.

Now, taking an extra catch of salmon by anglers on the Restigouche, and it has never exceeded 2,000 fish, but in a great majority of cases very much less, and place the results by a comparison between the outlay or cost of 2,000 salmon as between anglers and netters thus:—

| | |
|---|--------------------|
| Cost of capturing 2,000 salmon by anglers, at \$22.50.... | \$45,000 00 |
| do 2,000 do netters, at 46½ cts. | 930 00 |
| Leaving a surplus spent by the angler of..... | <u>\$44,070 00</u> |

In addition, the angling proprietor or lessee of angling privileges will have to pay his quota of the cost of guarding the river, for which the tidal fishermen pays nothing whatever on this score.

The undersigned feeling quite assured of the deep interest which many prominent individuals and the public also now take, and have always taken in endeavouring to uphold the salmon fisheries of the Baie des Chaleurs, and of the several rivers which

empty into it, considers that any suggestions coming as they have from persons having a practical knowledge and long experience on this subject should receive from your Department of Fisheries due consideration.

Frequent reference is made to the want of uniformity and inability to obtain correct returns. This is, no doubt, the case, as it is well known by those practically acquainted with the fisheries on the Baie des Chaleurs that the returns made to the Department are imperfect, and do not give anything like a true and correct account of the numbers of salmon annually taken in the nets operated in the estuaries of the several rivers and along the shores of the bay. These imperfect returns are caused by the desire on the part of the fishermen to withhold the true catch made by them, fearing that it might affect their interests with regard to the value to be put upon their licenses in after years. This no doubt would be the natural feeling of the fishermen; and to carry this out the overseers are often hoodwinked by the fishermen, and consequently these overseers simply take the *ipse dixit* of the fishermen, without taking further interest, as they should, by frequent examinations of the nets, and seeing the fish actually taken from time to time. This would require a live active men whose sole duty should be to daily inspect these salmon stations during the short time of ten or twelve weeks when the fishery is carried on in its fullest extent. A personal knowledge of this matter, when inspecting portions of the bay, in connection with the specialty of fish breeding, has given evidence of the prevalence of this want of thorough oversight of the large salmon fisheries in the neighbourhood of Dalhousie, and elsewhere.

Attention is also drawn to the present unfairness and want of discrimination which exists regarding the location of fishing stations, the length of nets, and the rate of license fees paid. This must appear obvious to even the commonest observer from a glance at the fishery stations on the departmental plans of 1878 (and it is more apparent at the present time), which shows the location and length of every net set, and their catch, and it will so elucidate the whole matter as to carry conviction with it, as to this inequality of the existing mode of licensing the salmon stations, especially in the bay below Dalhousie, on the New Brunswick side. To explain:—

The license fee on the New Brunswick side is 3 cents per fathom of net. Now take as an example the multitude of nets set in Eel Bay at Dalhousie, and commence at station No. 71 where the first net is placed for intercepting the shore wise course of salmon, after passing Heron Island, in their migration from the sea coast, and follow from No. 71, round the curves of this bay to station No. 43, and you find every available space allowed by law taken up with 27 nets, entered at 200 fathoms each. (Query—With this want of proper inspection, are these nets kept within correct limits or lengths?) and the present unfairness, and want of discrimination of a license fee of 3 cents per fathom are most apparent:

| | | Lbs. |
|--------------------------------|--|-------|
| No. 71 shows the catch at..... | | 4,000 |
| 70 do | | 4,724 |
| 69 do | | 1,800 |
| 68 do | | 3,290 |
| 67 do | | 1,197 |
| 66 do | | 3,000 |
| 65 do | | 3,000 |
| 64 do | | 3,100 |
| 63 do | | 3,436 |
| 62 do | | 2,544 |
| 61 do | | 3,000 |
| 60 do | | 5,500 |
| 59 do | | 3,998 |
| 58 do | | 3,000 |
| 57 do | | 3,511 |
| 56 do | | 4,135 |

| | | | Lbs. |
|--------|--------------------|-------|----------|
| No. 54 | shows the catch at | ..... | } 31,000 |
| 53 | do | ..... |  |
| 52 | do | ..... | } 10,500 |
| 51 | do | ..... |  |
| 50 | do | ..... | 8,659 |
| 49 | do | ..... | 6,291 |
| 48 | do | ..... | 6,229 |
| 47 | do | ..... | 9,000 |
| 46 | do | ..... | } 22,000 |
| 45 | do | ..... |  |
| 44 | do | ..... | 17,000 |
| 43 | do | ..... | 1,142 |
| | | | 164,05 |

Here it will be seen that one net, No. 44, took 520 per cent. more fish than the 16 nets each,—71 to 56—did, and yet each paid the same fee, viz., \$6.

Now, if the same system existed on the New Brunswick side as on the Quebec side of the bay, viz., 40 cents for every 200 lbs. of the catch, the average fee payable by the 16 nets referred to would have been \$6.40 each, and No. 44, at the same rate (with 17,000 lbs.) would have been \$34. This, I should say, was conclusive evidence of the unfairness of the present system—unfair towards the fishermen themselves on the New Brunswick side, and more so towards the fishermen on the Quebec side. Taking the aggregate catch of these 27 nets of 200 fathoms each as operated on the limits of Eel Bay, on the New Brunswick side, the gross amount of fees paid by them to your Département was \$174; whereas, if these same nets had fished on the Quebec side the amount of fees payable by them would amount to \$328.

With regard to this evident unfairness and want of discrimination with fishing stations and license fees, it may be asked how it is that certain nets, or that one net, can possibly take such greater numbers of salmon when located almost (so to speak) alongside so many other nets in Eel Bay? It is somewhat easy to explain, when the migratory habit of the salmon is known, and their instinctive nature for following the coast line until they reach their native rivers, which they ascend for spawning purposes. The larger proportion of salmon belonging to the Restigouche River would naturally strike Eel Bay, on their direct line from their seaward journey, passing by Heron Island. This bay being the first coast line struck by them, as the numerous nets set there would indicate, they commence their coast, or shore, course onward. Nos. 70 and 71 nets show the larger catch of these fish at the lower end of the bay. The fish being driven outward somewhat by these first nets, they pass along with a somewhat uniform catch, till a smaller bay, at the mouth of Eel River, is reached, when they instinctively turn inshore again, striking nets Nos. 51, 52, 53, 54, where the catch runs up from an average in the 17 nets below of some 3,000 lbs. to 41,000 lbs. (in these 4 nets), or an average of over 10,000 lbs. each. From this point they pass on with the accumulations of others coming in direct from their seaward line, giving an increased catch in the six nets above (Nos. 50, 49, 48, 47, 46 and 45) of nearly three times the catch of the 17 first-mentioned nets below, or 8,700 lbs., as compared with 3,000 lbs. each. From this point the salmon strike directly outward to get round the point at the head of the bay, when net No. 44 takes 17,000 lbs., and the next, No. 43, takes only 1,140 lbs.

Thus, it appears that the nets located at either end of this Eel Bay, although using the same number of fathoms as all others, get certainly the lion's share of the salmon and pay no more license fee. This appears very unequal and unfair, and these nets, or the owners of them, at these naturally better-located stations, have no greater legal right to the fishery than their neighbours; custom and occupation has, it appears, made these occupants of the better stations think they can hold them as of their exclusive right. Riparian rights do not prevail in the tidal waters,

and consequently their occupation of the fishery is only permissive from the Government, which they acknowledge by paying the annual license fee for fishing these stations. Then why should one man, merely by the peculiarity of his fishing station, be compelled to pay \$6 as a license fee for catching 3,000 lbs. of salmon, whilst another, with the same length of net, and paying the same fee of \$6, takes 17,000 lbs. of salmon? The remedy lies in the necessity that exists for abolishing the small fee of 3 cents per fathom, and placing a uniform charge of a certain amount upon every fish, or 100 lbs. of fish, taken by each net. In this way the taxation would be not only justly applied, but equitably proportioned amongst all the fishermen, whether his station were a good or a bad one, or his net long or short.

In connection with this subject of license fees, the following views are suggested for your consideration, which, if carried out, would no doubt in the end benefit the fishermen themselves, in more fairly equalizing the profits accruing from their somewhat laborious calling, and the expenditure connected with their individual fishing stations, and also produce an income to the Department from the catch of fish to sufficiently pay a live overseer, whose time should be wholly devoted to seeing that the fisheries regulations were thoroughly enforced, and thus establish faith in the minds of the public of the determination of your Department to maintain for the present time, and for the future, the salmon wealth so largely obtainable from the waters of the Baie des Chaleurs, and the rivers tributary to it.

Taking the same data for figures and quantities of salmon referred to previously, and confining these remarks to the same 27 salmon stations at Eel Bay, which, whilst it may be only a section of Baie des Chaleurs, will nevertheless be a proper criterion to draw a correct conclusion for operating all the fisheries in that large salmon-producing area (the Baie des Chaleurs)—and even elsewhere and in other Provinces. These 27 nets gave a return of 164,056 lbs. At present the netters on the Quebec side pay 40 cents per 200 lbs.—this, after all, is a very trifling fee, and is not found fault with. I would suggest a uniform fee of 50 cents on every 200 lbs. of salmon— $\frac{1}{2}$ cent per lb. of fish. At this rate the 27 nets with their 164,000 lbs. of salmon would give an income from the license fund of \$410. This income, trivial as it is, from this large catch of salmon (and so considered by the fishermen themselves, if equitably exacted from them) is derived from only 27 stands of nets, out of 230 stations in Baie des Chaleurs, and taking in only 7 miles, out of 156 miles of the shores of that bay, as laid down in the fishing chart, describing salmon stations. From every standpoint a license fee based upon the quantity of fish taken is preferable, and more equitable in the interests of all parties concerned.

(3.) Reference is also made to the "necessity for enforcing the law regarding Sunday close time for nets." This regulation is of such vital importance for the better maintenance of the salmon fisheries on the tidal waters, by allowing certain portions of the "runs of salmon" to pass up to their native rivers unmolested from Saturday night at 6 o'clock till Monday morning at 6 o'clock, that it should be strictly enforced in the Baie des Chaleurs and elsewhere, in all tidal waters where salmon fisheries are carried on. It is a law which has existed upon the statute books of Canada since Confederation, and of the several Provinces previous to that time; and has always been held to be, not only in Canada, but in the countries of the old world, as one of the most important aids for giving opportunities for salmon to reach their native river for reproductive purposes. Do away with this Sunday or weekly close time, and allow the fishermen to carry on their avaricious desires for keeping their nets set from the opening to the close of the fishing season, and the flood gate of destruction is wholly opened up to expedite the extermination of the salmon wealth of the country.

This weekly close time is and always has been a permanent record upon the statutes of almost every civilized country in the world, in the waters of which the noble salmon are indigenous. The salmon, being migratory, make their journeys to their native rivers in large bodies, or "runs," as they are called, within certain limited periods of time. In some cases a longer or shorter period is taken. In the Baie des Chaleurs the time will be included in about six or eight weeks; and should these

nets be kept down during the whole of this time they would become barriers (or fixed engines completely) to the upward passage of salmon along the coasts, and shores, on their migration to the rivers to uphold their species.

To show the destructive nature of some of the nets used, sketches are herewith giving of those in general use on both sides of the Baie des Chaleurs. Some of them are such complete engines of destruction and set in such direct opposition to the requirements of the law and regulations as to demand their confiscation, and infliction of the severest penalties upon the parties who use them. The statutes read, sub-sec. 7, sec. 14, Fisheries Act. "No one shall use a bag-net, trap-net or fish pound for capturing salmon." Now, in opposition the nets used for capturing salmon on the New Brunswick side of the Bay are the most complete and wicked invention of a trap-net that could be devised for the capture of salmon. The statute furthermore says: "No one shall fish for, catch or kill salmon in tidal waters from 6 o'clock in the afternoon of Saturday till 6 o'clock in the forenoon of every Monday."

Now, not only are these illegal and wickedly destructive trap-nets set and in general use on the New Brunswick side of the bay, but they are kept there as fixed engines during the whole of the fishing season, and not taken up during the weekly close time from Saturday night till Monday morning. Thus, these fishermen are actually usurping a privilege from your Department which is hastening the end of the salmon wealth of that bay and the rivers emptying into it, and enriching themselves by wrongdoing, as against their brother fishermen on the other side of the bay who carry out your fishery regulations, and in addition creating strife and dissatisfaction with other fishermen who, through their representatives in Parliament, are importuning your Department for permission for the same privileges which the others are tacitly permitted to enjoy as of their own right.

Appended will be found plans of several descriptions of nets in use for capturing fish in tidal waters, and it would appear that hardly two persons agree upon what a trap-net is. From what I can learn, the nets used on the New Brunswick side of Baie des Chaleurs, shown in figures Nos. 3¹ and 3², are the wickedest of traps for killing salmon. My definition, is that any fixed net so set as to lead fish through one or more apertures into a pen or pound attached thereto, from which they cannot escape, is a veritable "trap-net."

Even the hang nets herein given would be interpreted in England as "fixed engines." I quote from the report of the Fishery Board of Scotland for 1888, thus: "As to the destructive effects of hang-nets on river fisheries, the English inspectors point out in their fourteenth annual report that they, in a few years, reduced the annual yield of salmon in the Tyne from 129,100 to 21,746, after which a by-law was passed restricting the area of their operations, since which time the Tyne fisheries have very greatly improved."

Mr. Berrington, the Chief Inspector of Fisheries for England, in his report to the English Board of Trade, says:—

"The mode of fishing in the sea for salmon is exclusively by hang-nets. This description of net is capable of intercepting a far larger proportion of incoming fish than would be taken by draft-nets, and in this district its efficiency is habitually still further increased by the illegal practice of anchoring the shore end. On my arrival at Whitby I saw two nets anchored off the pier, extending several hundred yards seaward. On the following evening I saw four nets used in this manner, and acting as a complete barrier to the passage of fish. I drew the attention of the conservators to this illegality."

"It would be undesirable to alienate the upper proprietors, who have the control of the spawning grounds; and considering the exertions they have made, it would be unfair to reduce their opportunities of taking fish after the nets are removed."

The mode of fishing in the public water or tide-way of the Trent is by beam-nets. They are fished from a smack, but are stationary when at work, and are placed so as to face either the flow or the ebb of the tide. The length of the beam is from

20 to 22 feet; the mesh of the purse is very small. * * * The complaints against the beam-nets are that they take salmon illegally and destroy large quantities of immature fish. These nets cannot fail to take salmon * *

* The law respecting the use of small-meshed nets in salmon fisheries is one which deserves consideration. * * * In the case of beam-nets, they are in fact fixed engines and cannot on that account lawfully be used for the capture of salmon. * * * With regard to the complaint that the beam-nets (as fixed engines) destroy large quantities of immature fish, it is necessarily true. * * * The salmon fishermen complain seriously of the number of salmon taken by them, and of the injury they do to the young of salmon if used in the spring months.

The consensus of opinion by most authorities on the preservation of the salmon fisheries in Britain and other countries in the old world has been that, "fixed engines," as stationary nets, were so destructive to the salmon fisheries generally, and that they so barred the passage of these fish to their native rivers for breeding purposes, that these "fixed engines," as they are styled, have been almost wholly abolished: and it is said that from this cause, is mainly to be attributed the present continued supplies of the salmon in most rivers of Britain.

A single instance is here given of a river which has been fished for centuries—the Tay, in Scotland. The rentals of the salmon fisheries connected with it have during the past six years given an average annual income of \$101,825. The country through which this river runs, from its source down to the sea, is densely inhabited, and its estuary and coast line connected with it is crowded with shipping and traffic of all kinds to an enormous extent. Manufacturing industries of various kinds are located almost throughout the whole extent of the river, yet it is found that salmon are taken in such abundance in its waters as to produce the annual wealth above mentioned, giving employment from these salmon fisheries to many people, and adding luxury and pleasure to anglers and others of the general community. This river Tay, I am informed, is actually insignificant, when compared with the Restigouche, its estuary, and the famous Baie des Chaleurs connected with it. The Restigouche, with its numerous tributary rivers, may be said to be in their primeval state, almost down to the tide-way. Not a mill or manufactory is built upon the river; its waters are not contaminated with pollutions of any kind and its purity and capacity as the home of the salmon is the same as when it first fell from the hand of nature. It has always held widespread notoriety as one of the greatest salmon-producing rivers since the first settlement of Canada; and why should it be allowed now to become reduced in its capacities for keeping up a great standard of fish wealth, somewhat in comparison with the river Tay, above referred to? And so it might, if the improvidence and avarice of the netters were stayed, and they were compelled to adhere to the fishery regulations, as to the use of proper descriptions of nets and the due observance of the weekly close time.

In a reference to the close seasons for net fishing, and angling on the river Tay, a much greater latitude is given by the Scottish laws than in Canada.

The annual close time for netting on the Tay is from 27th August to 10th February; on the Baie des Chaleurs, 15th August to 1st March. For angling on the Tay, from 31st October to 10th February; on the Restigouche, from 15th August to 1st February. From this it will appear that the fishery authorities in Scotland do not consider that angling for salmon is as injurious as the use of netting by fixed engines. The Tay anglers are permitted to take salmon up to the 31st October, which gives a period of two months and a-half longer than is allowed anglers on the Restigouche or other Canadian rivers.

The general law for close times for salmon in England is from the 1st of September to the 1st of February for nets, and for angling from 2nd November to 1st February. In many rivers the season commences later. Thus, throughout England, salmon angling is permitted two months later than in Canada.

The undersigned, after a careful consideration of all the bearings relative to the question of the maintenance of the salmon fisheries of the Baie des Chaleurs, and after a relation of the various points from which his conclusions are drawn, recommends the following:—

1. That the description of salmon net to be used along the coast, and in all of the tidal waters of said bay, should be similar to the one marked No. 1 of the plans hereto attached, known as the *wing-net*, or *hook-net*. It has no trap, nor bottom attached to it; it was the net universally used in all of the waters of the bay previous to 1878, and is the net now used on the Quebec side of the bay, in the counties of Gaspé and Bonaventure. The lifting it is easily performed to comply with the weekly close time, and should now be as satisfactory and remunerative to the fishermen of the present time as previous to 1878, and especially so when the netters on the Quebec side of the bay use it, and would be satisfied to still use it if the netters on the New Brunswick side were compelled to do the same. But if one portion of the bay is fished with an illegal net, which is more destructive and better adapted to entrap the salmon, all other fishermen naturally desire to partake of this privilege, illegal though it may be.

2. Restrictions should be made, even regarding the above-named net No. 1, as to its length, for one station with 100 fathoms may be so favourably situated (but ruinously so, on the upward passage of salmon) as to capture more fish—in some instances two, three or four times the number that a 200-fathom net set just alongside will take.

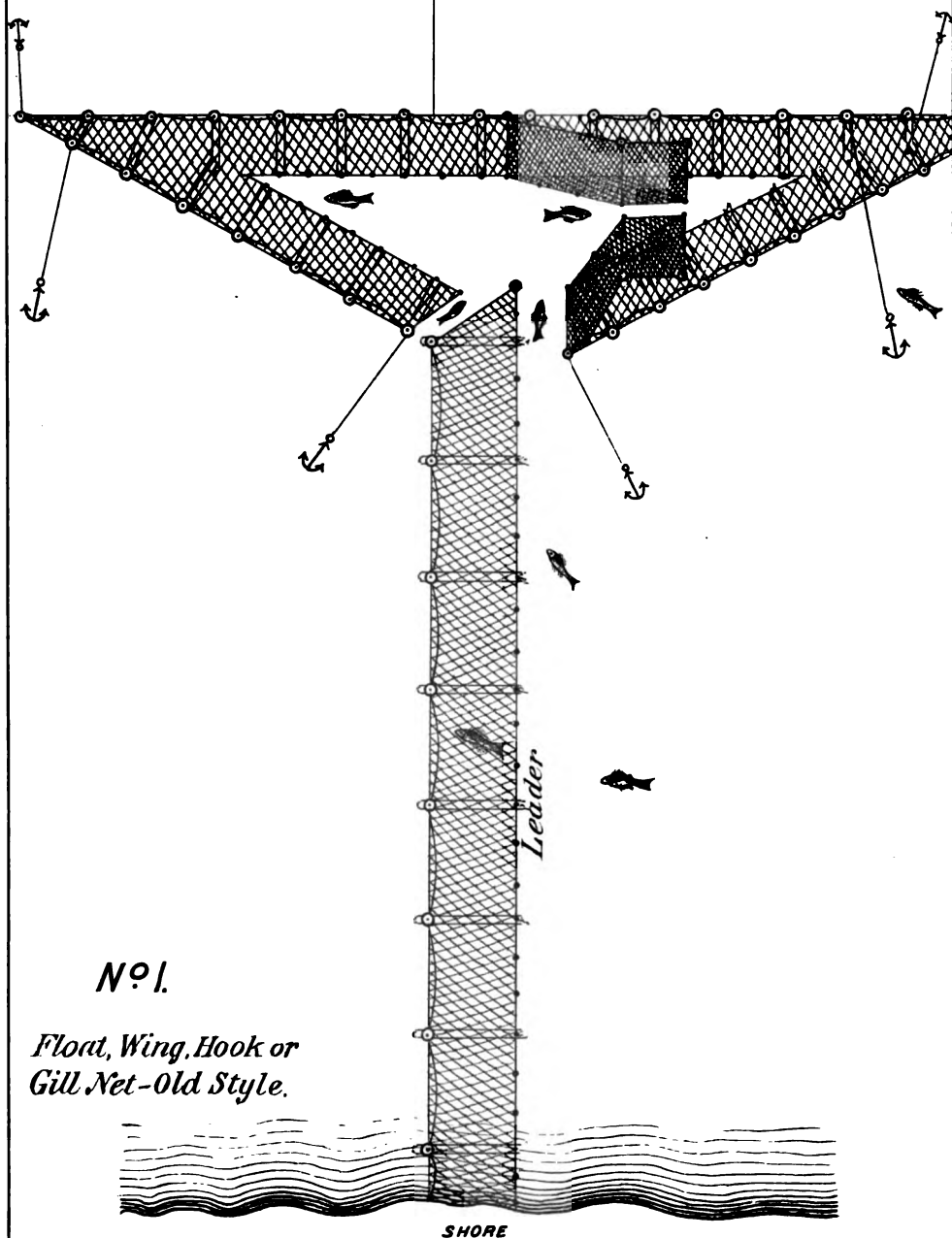
The meshes of all salmon nets in the Baie des Chaleurs and the estuary fish-ways should be a like size for leaders, wings and hooks, namely, $6\frac{1}{2}$ inches. The meshes of nets now in use are almost invariably 7 inches. In licensing the nets, the length of net in fathoms should include the length of the leader, as well as all hooks or wings that may be connected with the working of the net.

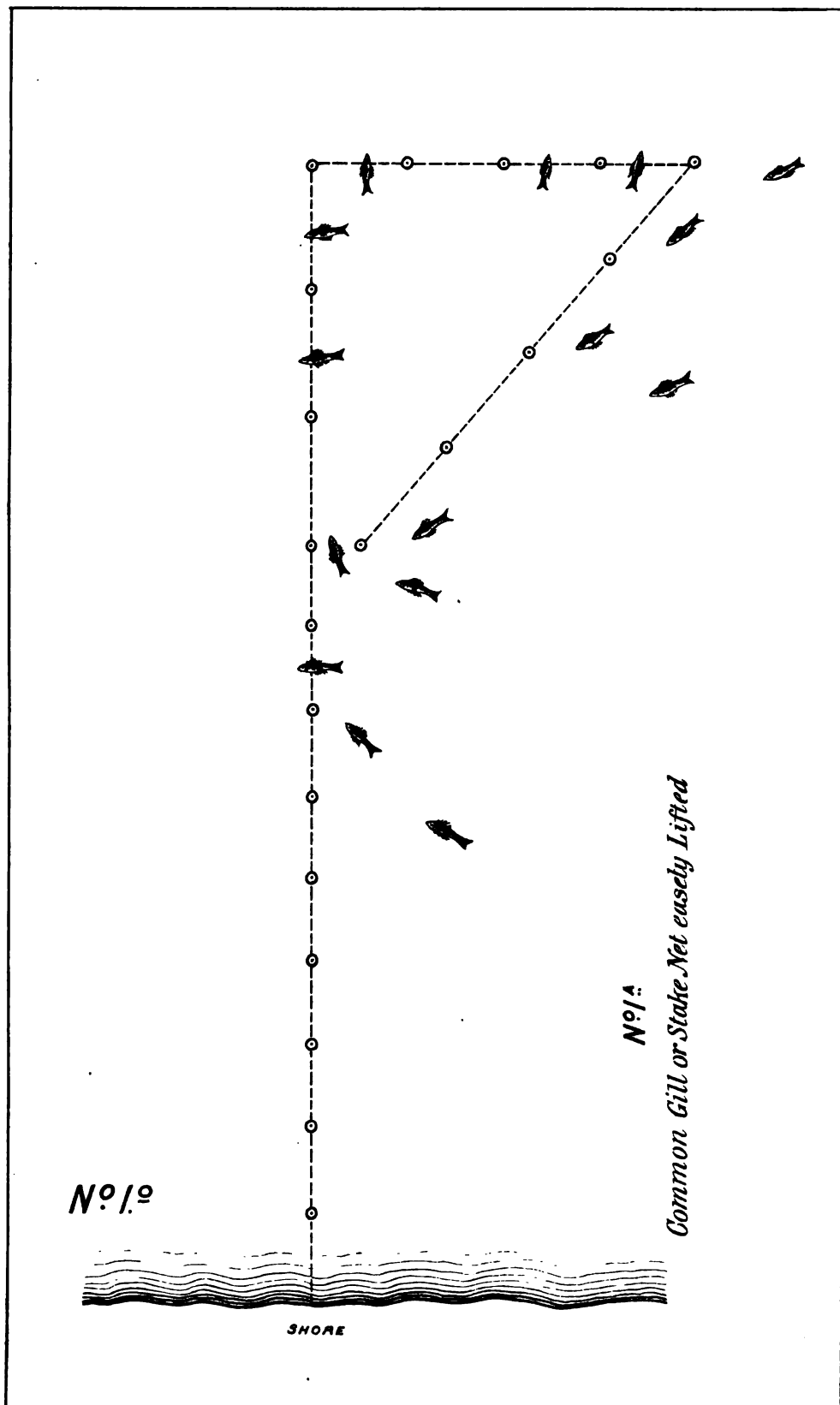
3. The salmon stations for nets should be so located as not to interfere too destructively with the incoming "runs" of salmon when rounding certain points, now well known to fishermen and others. The length of each net licensed should be established from the adaptability of the station for capturing salmon.

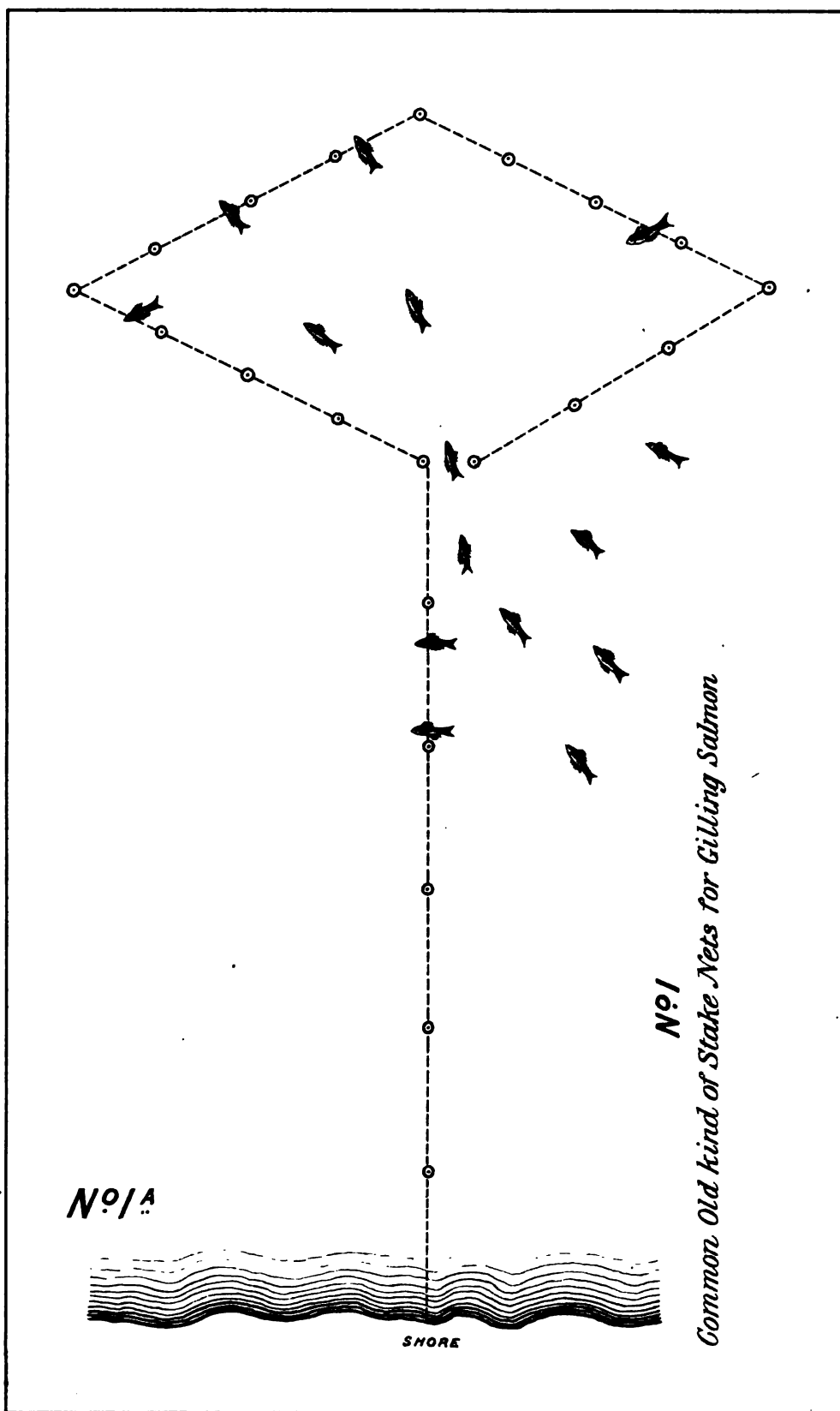
4. The close season for salmon, by netting, to be as laid down in the consolidated regulations of 1889, and that the weekly close time, from Saturday until the following Monday, be strictly enforced everywhere alike.

5. That the fee of 3 cents per fathom on salmon nets be abolished, and that in lieu thereof a tax of $\frac{1}{4}$ of a cent per pound of fish, or 25 cents per 100 pounds, be exacted in all cases on the catch of salmon in the Baie des Chaleurs, and in all other salmon fisheries by nets in the Atlantic Provinces.

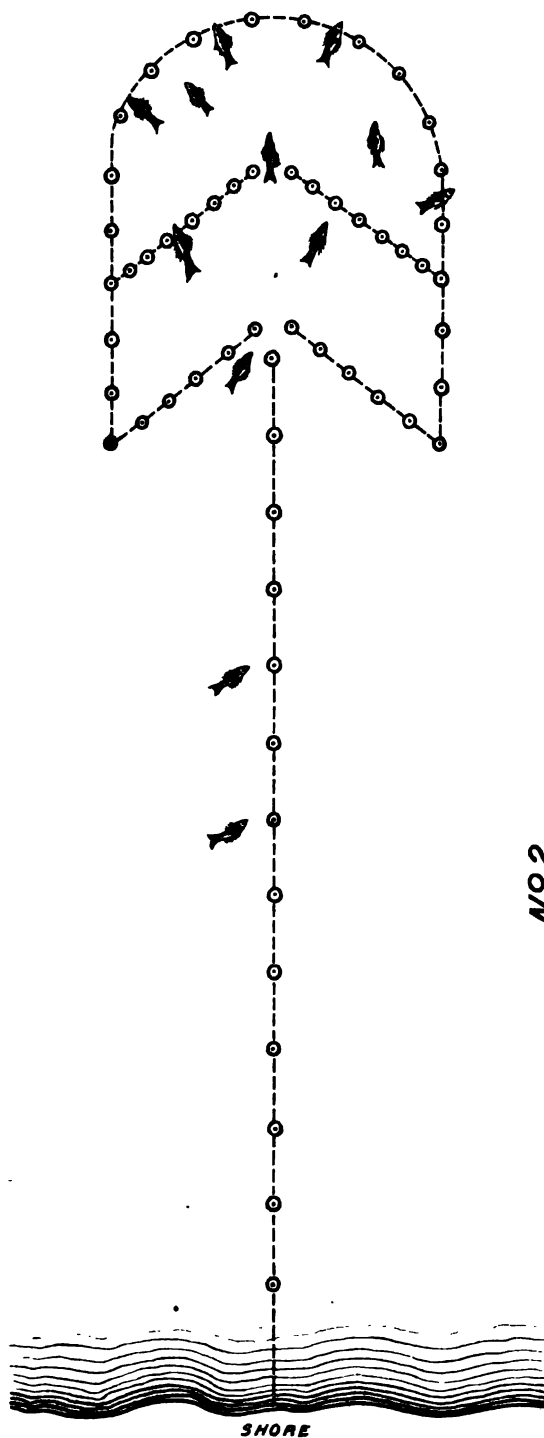
Wing-Net or Hook Net, none other used prior to 1878 in Bay des Chaleurs.- and the only legal one now in use in Quebec Side in Gaspé, and Bonaventure, can be easily lifted to comply with Weekly close time by tying up -





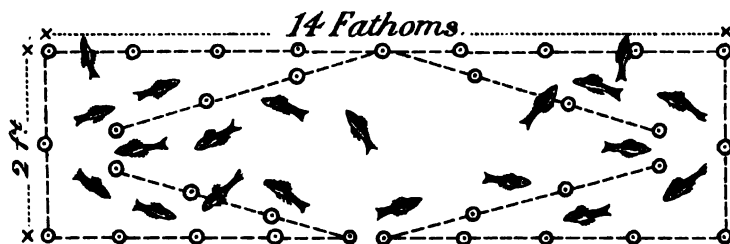


Nº2.

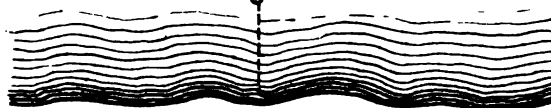


Nº2.

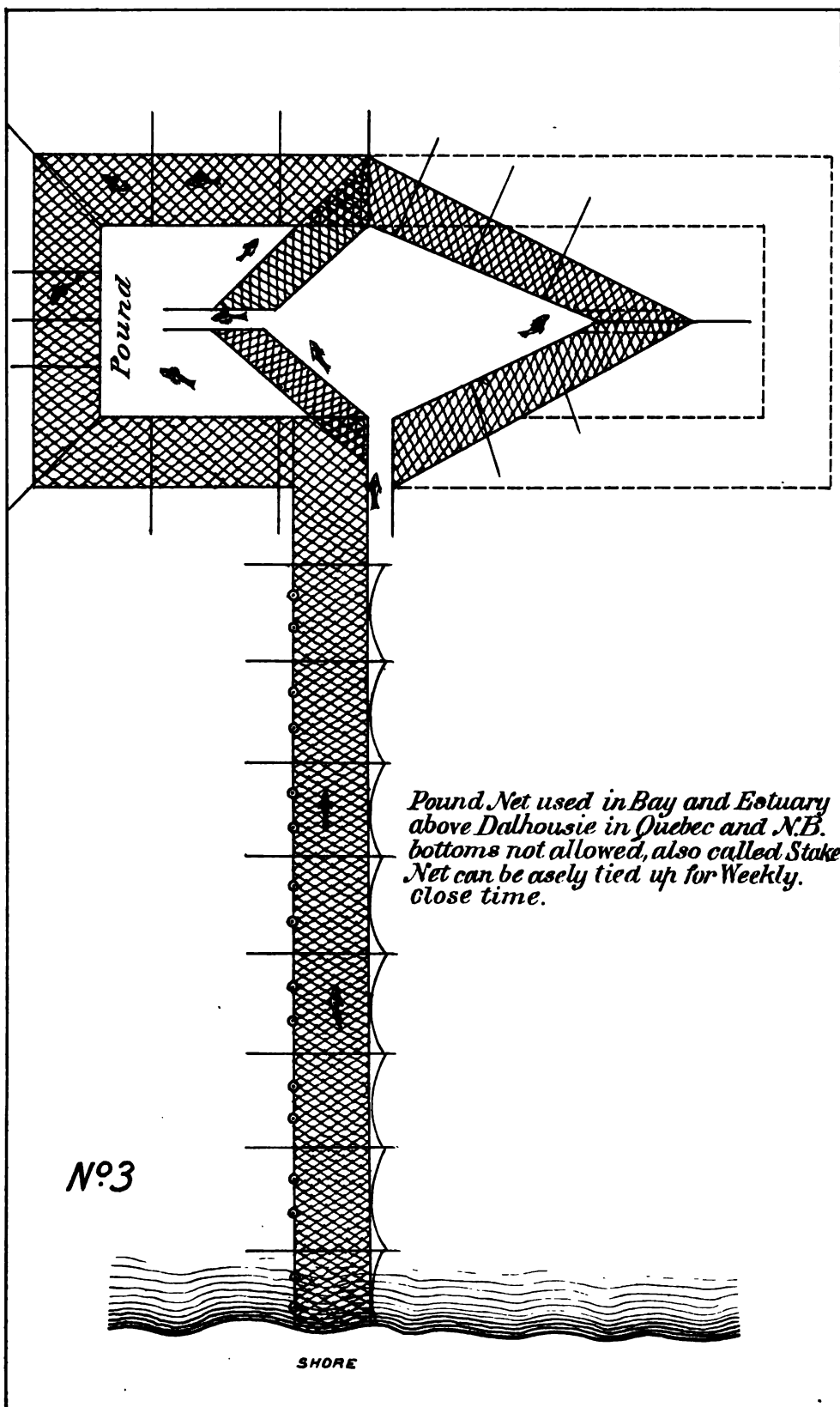
Common Hang or Stake Net for Giltling Fish, open top and bottom.

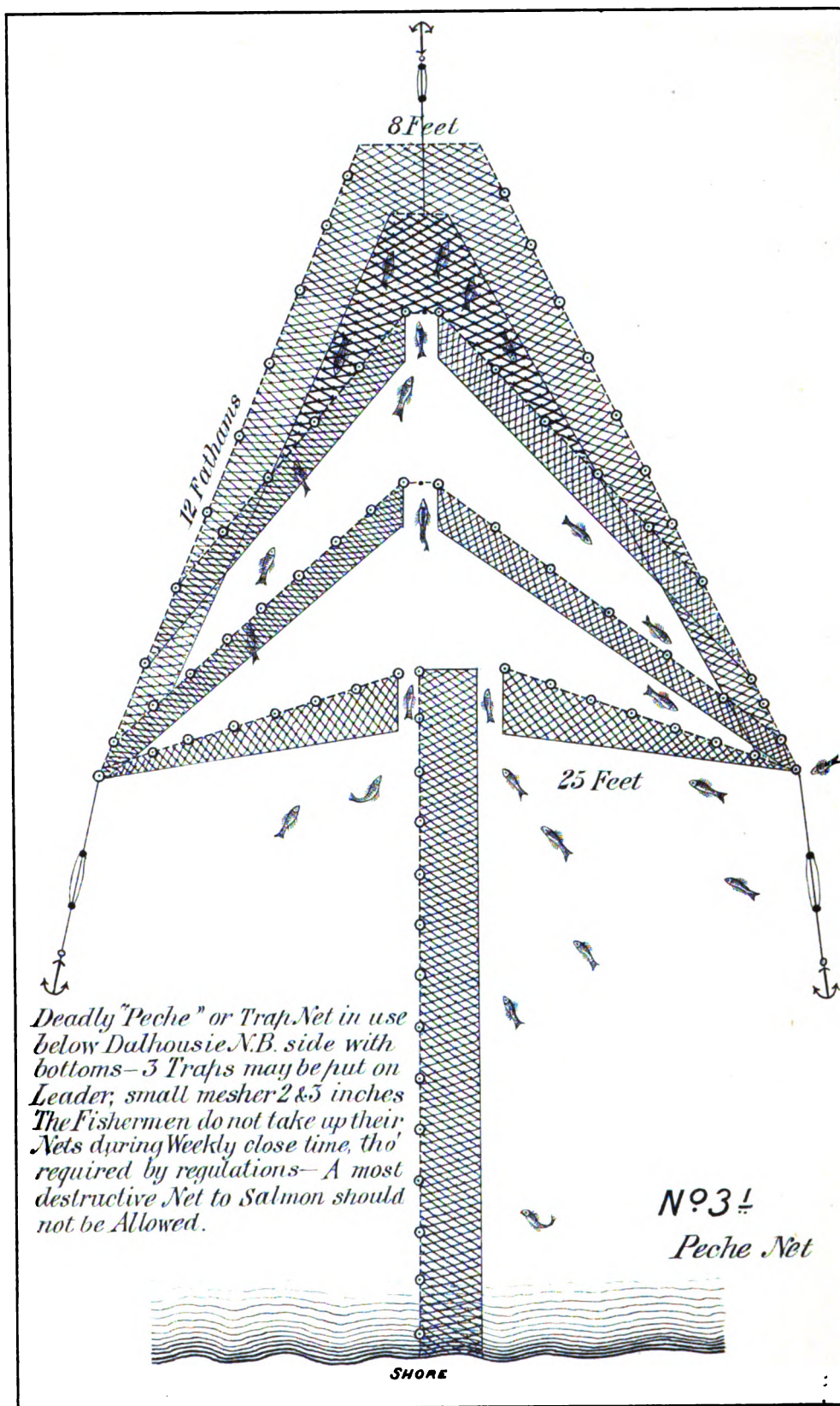


Nº2
Gill Net
without bottom



SHORE.



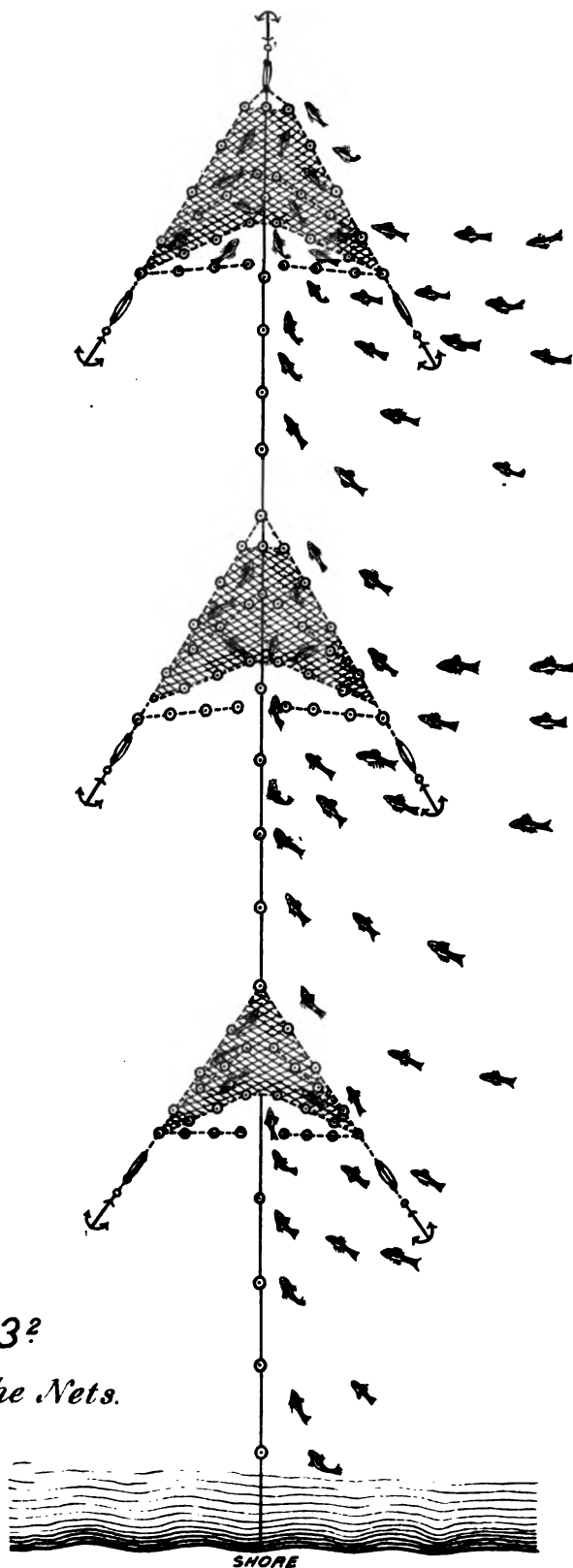


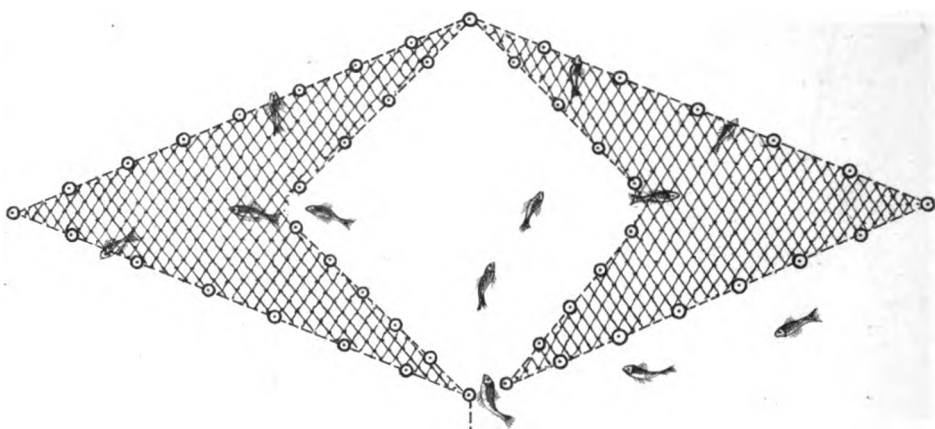
Deadly "Peche" or Trap Net in use below Dalhousie N.B. side with bottoms—3 Traps may be put on Leader, small mesh 2 & 5 inches The Fishermen do not take up their Nets during Weekly close time, tho' required by regulations—A most destructive Net to Salmon should not be Allowed.

*Most destructive Trap, and pound Net in use on N.B. side of
Bay Chateaux- same Style as No 3rd with 3 Traps, used with
bottoms, and not taken up during Weekly close time, Which is
contrary to Law, their Traps and pounds should be Abolished*

No 3rd

Pêche Nets.

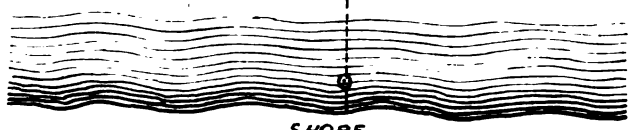




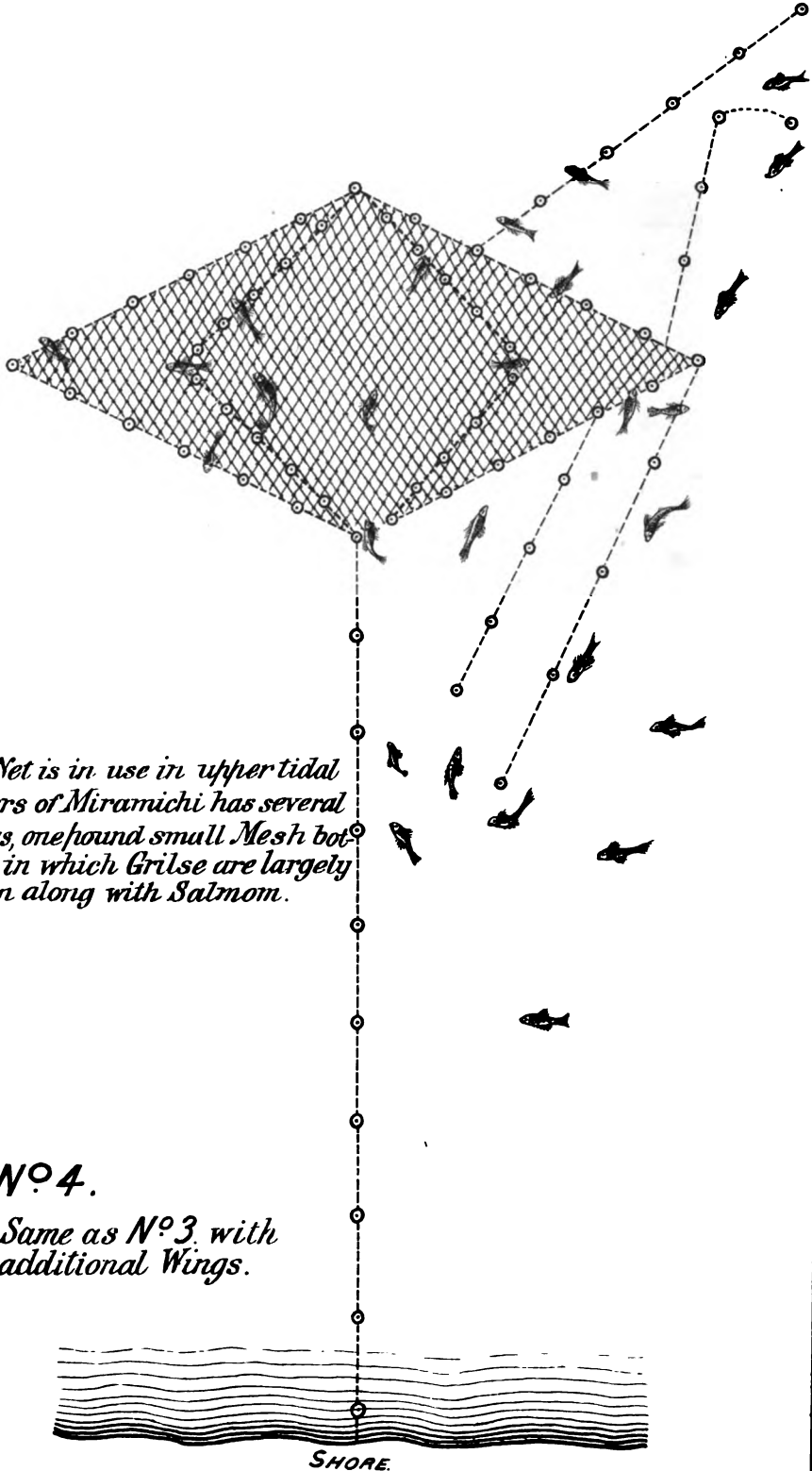
*Bar Net and pound with bottom,
upper tidal Water Miramichi,
6 in. Mesh Leader + bottom
small Mesh.*

Leader →

Nº 33
*Bar Net
and Pound.*



SHORE

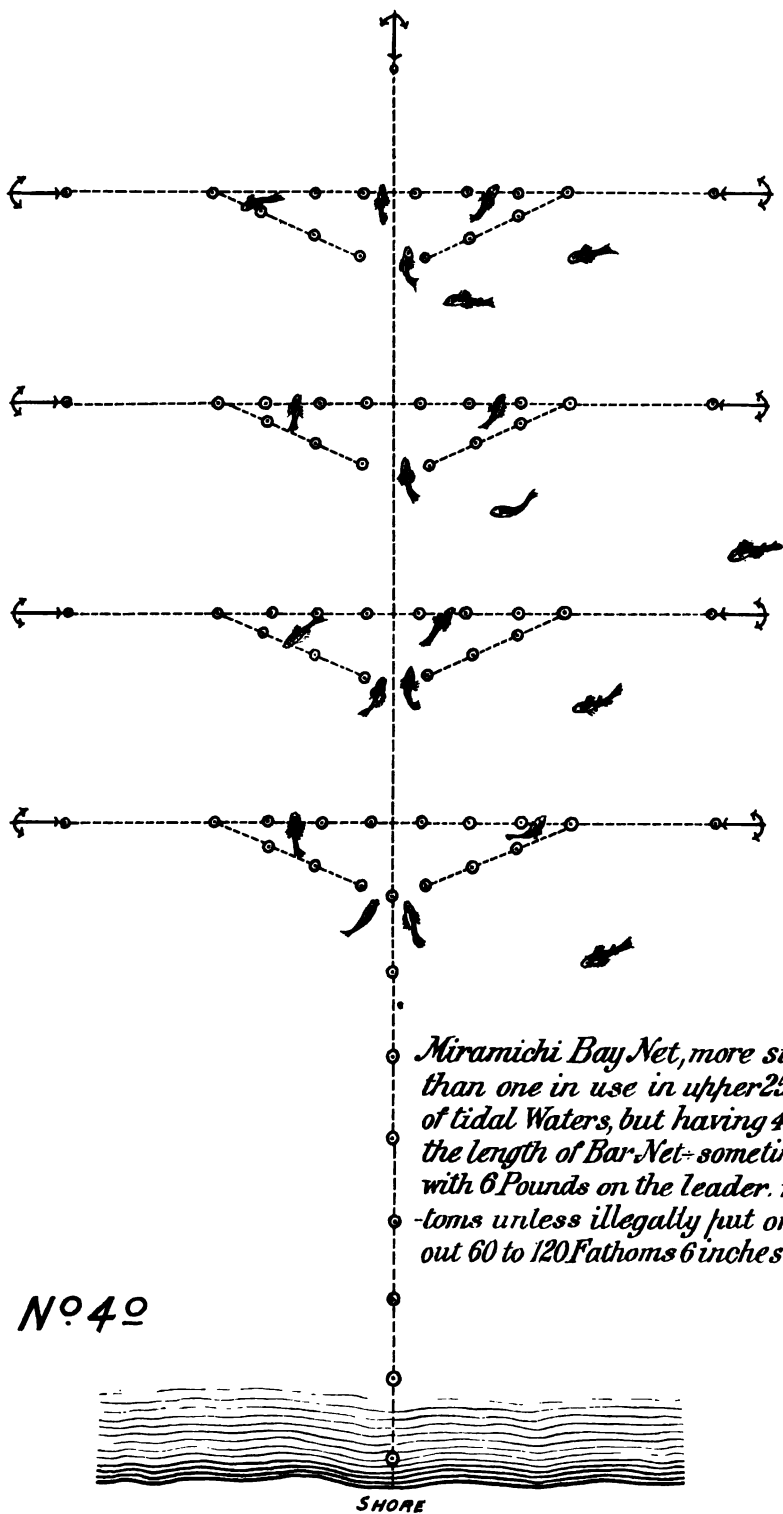


This Net is in use in upper tidal Waters of Miramichi has several Wings, one found small Mesh bottom-in which Grilse are largely taken along with Salmon.

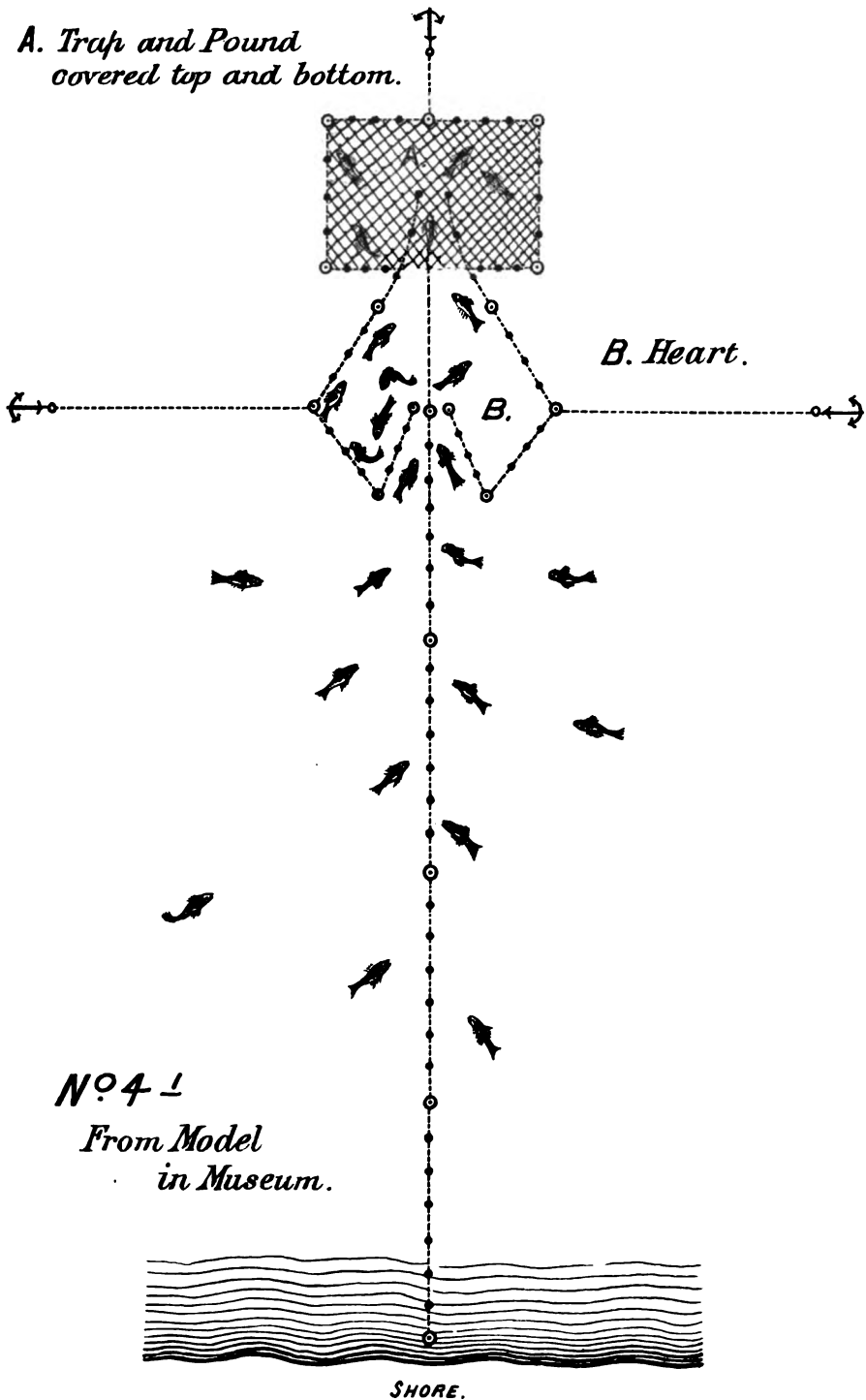
N^o 4.

Same as N^o 3. with additional Wings.

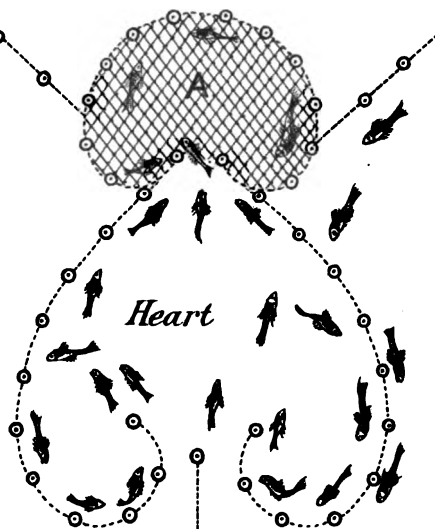
SHORE.



*A. Trap and Pound
covered top and bottom.*



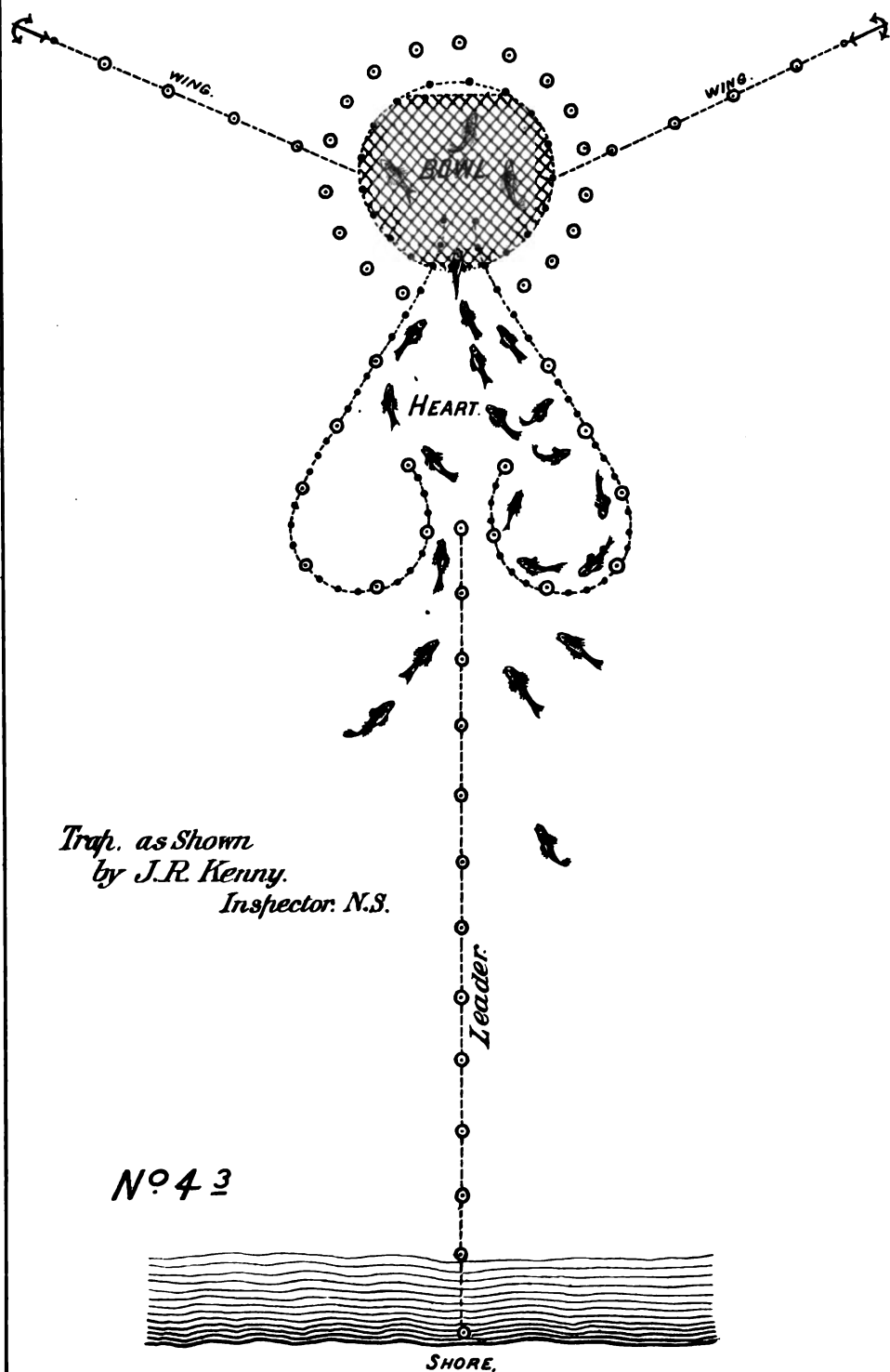
A. Trap with bottom in the Pound.



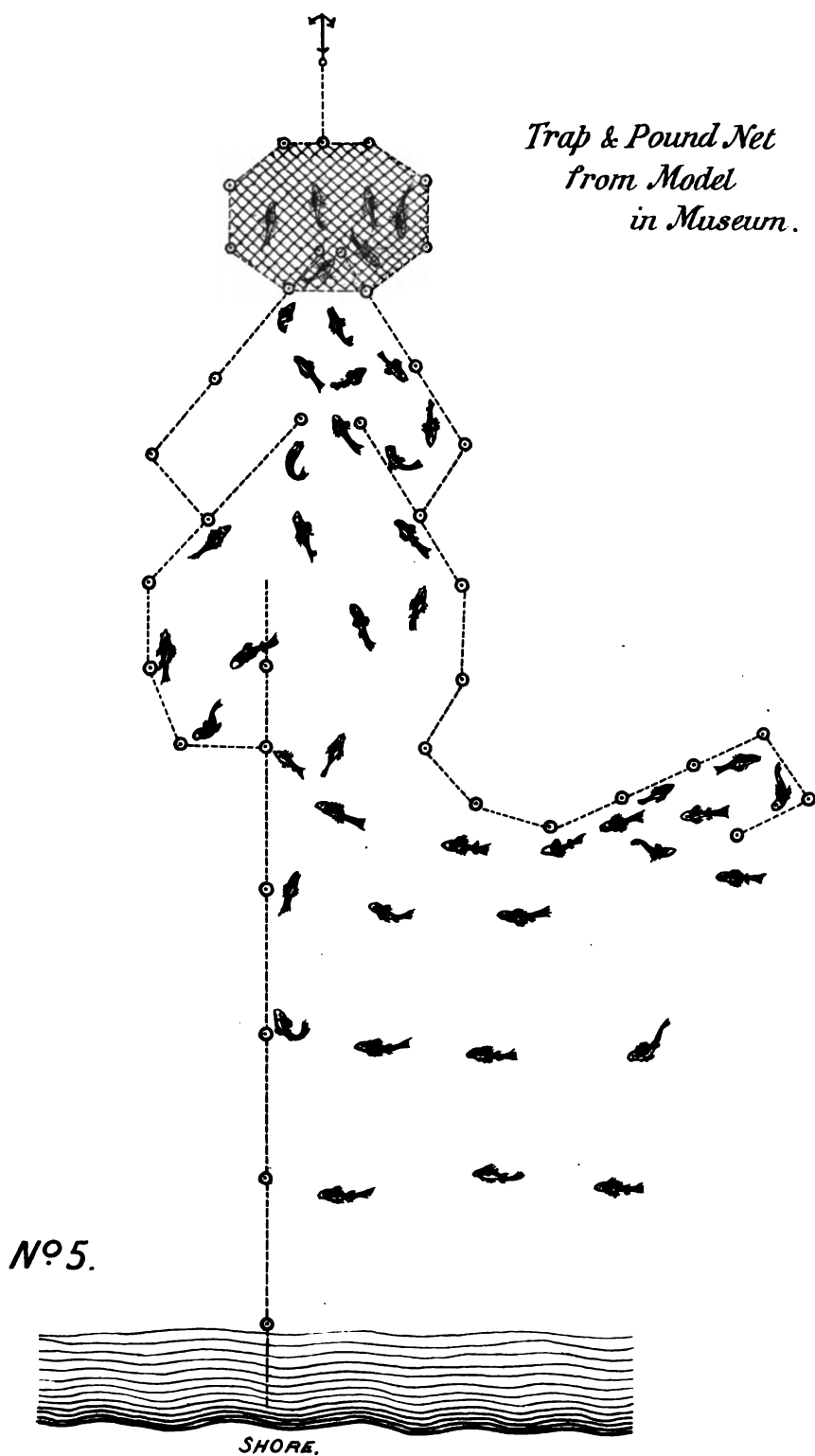
Nº 4 ²

*Model
in Museum.*

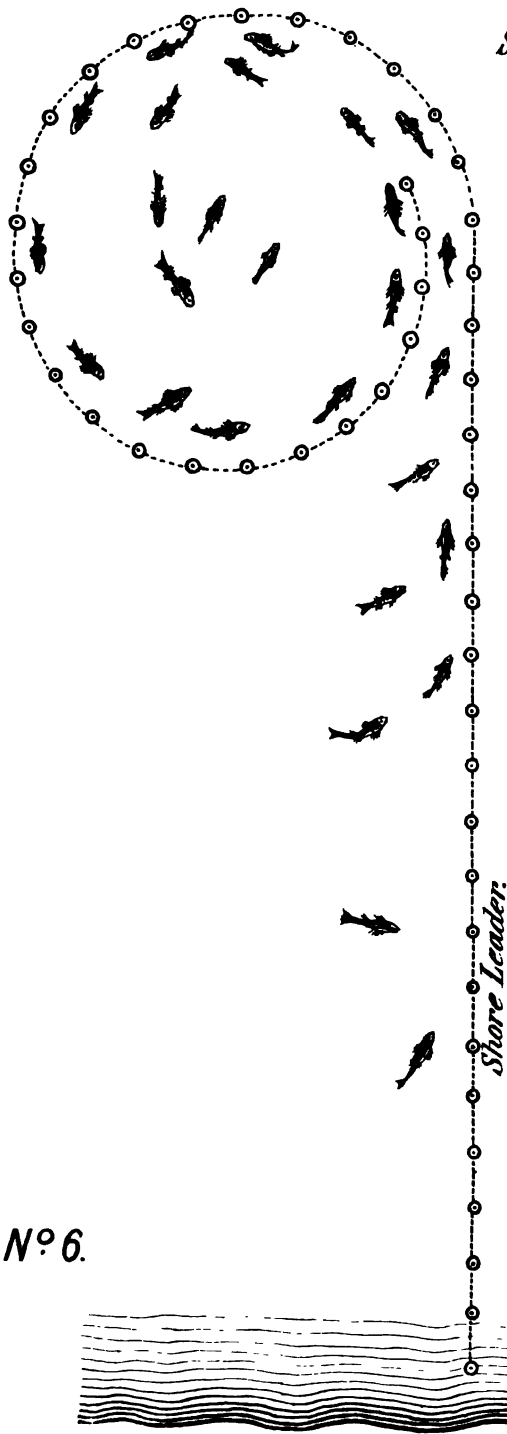
SHORE.



*Trap & Pound Net
from Model
in Museum.*



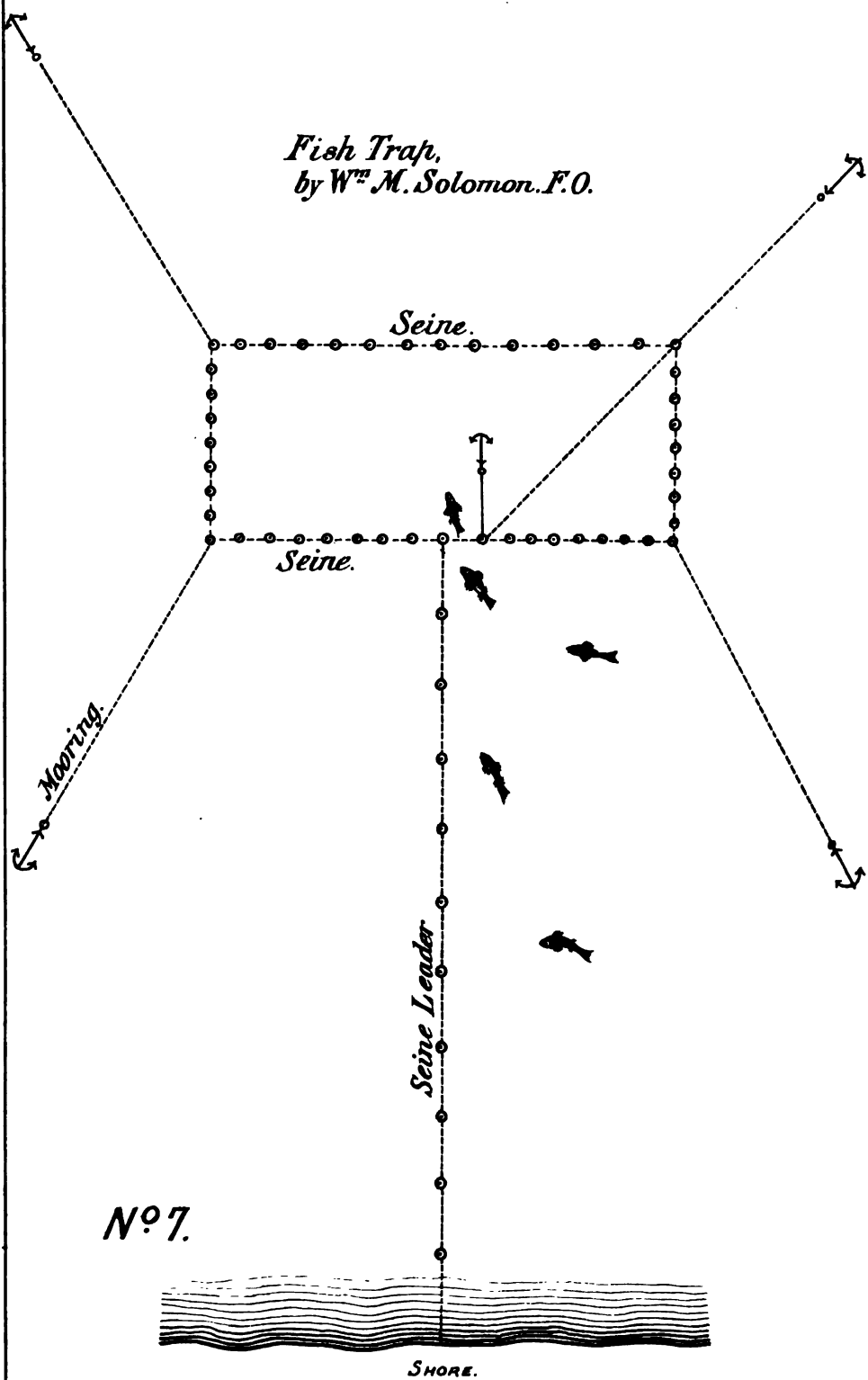
*Sketch Trap Net,
Cap. Gordon.*

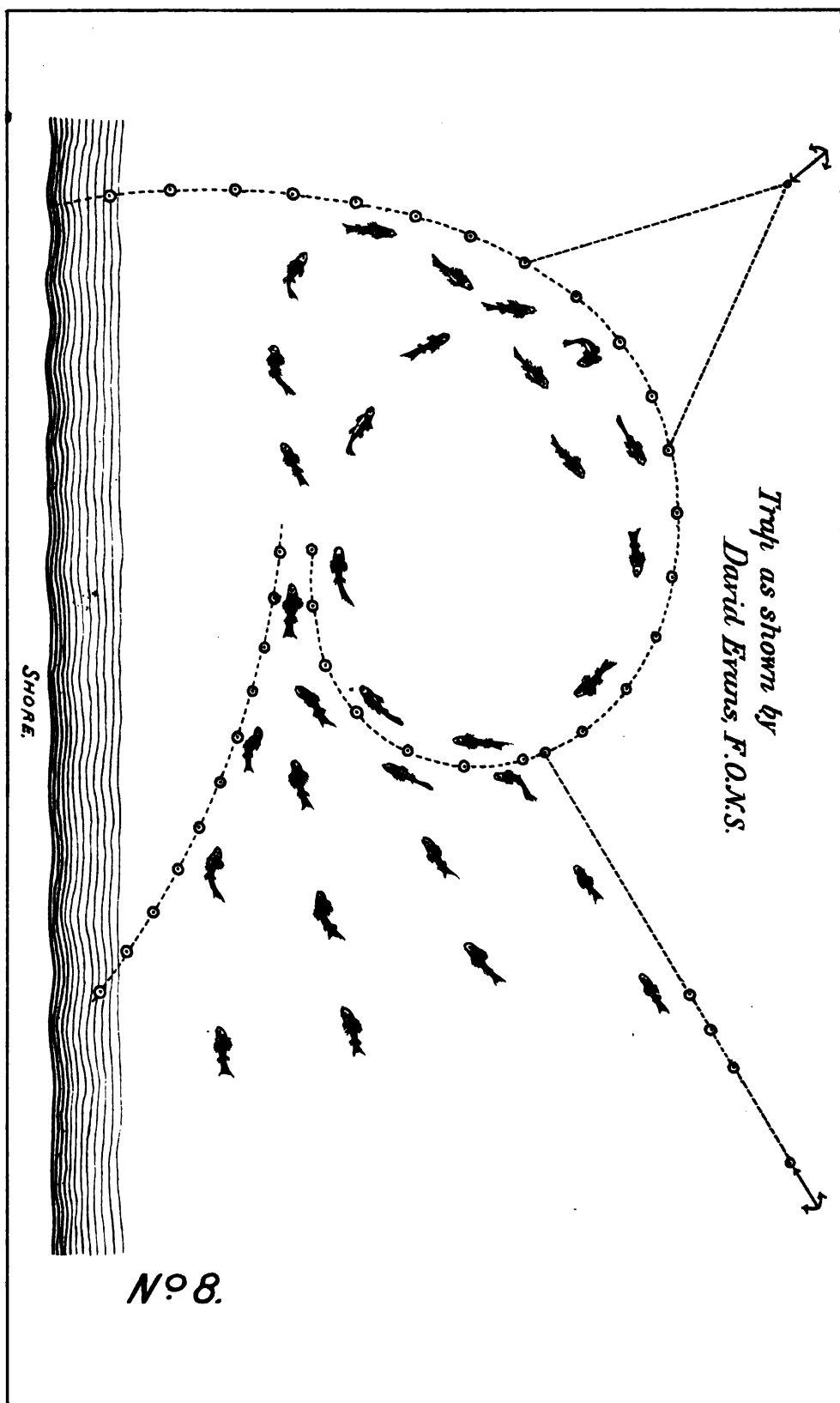


Nº 6.

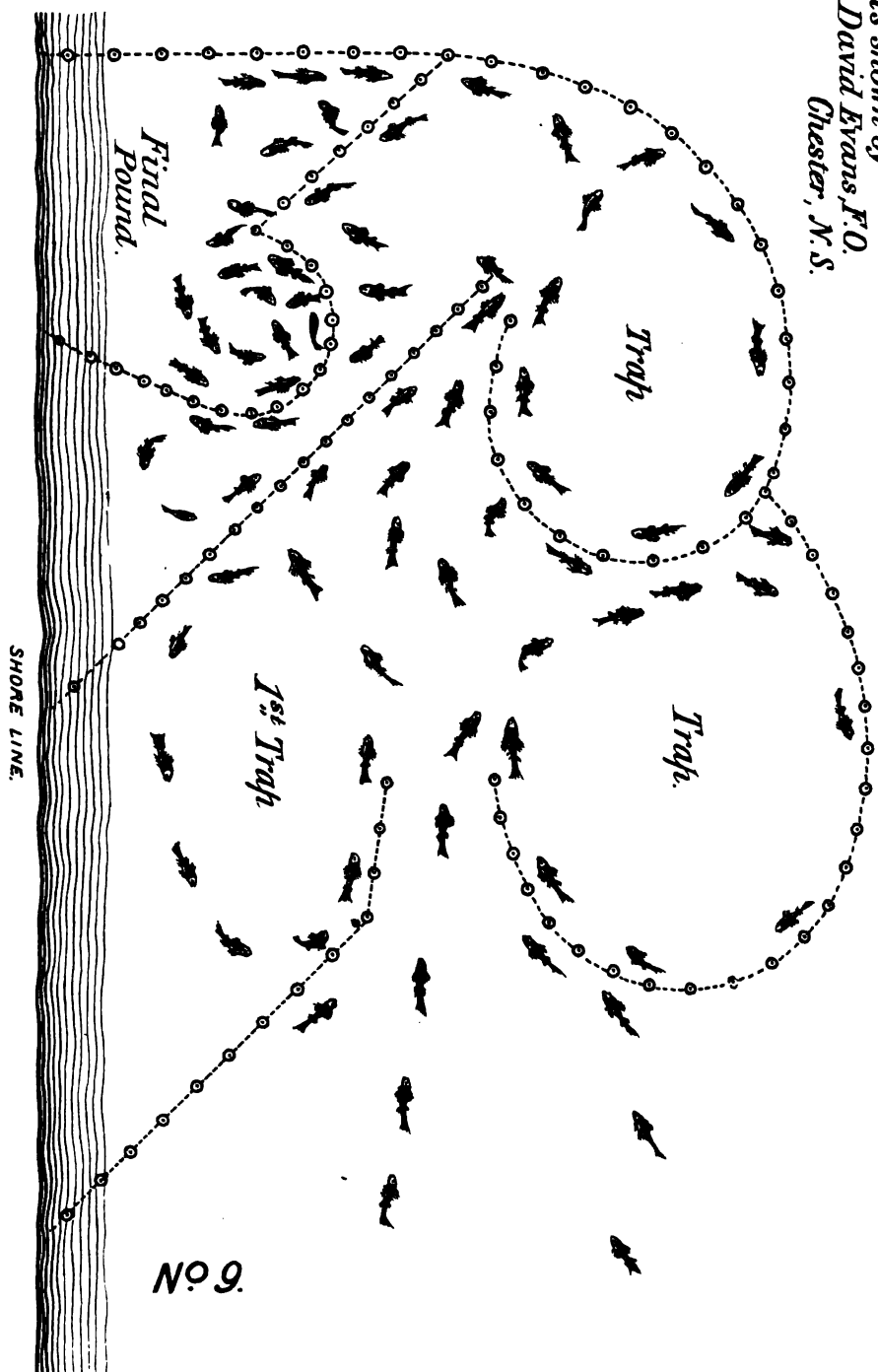
SHORE.

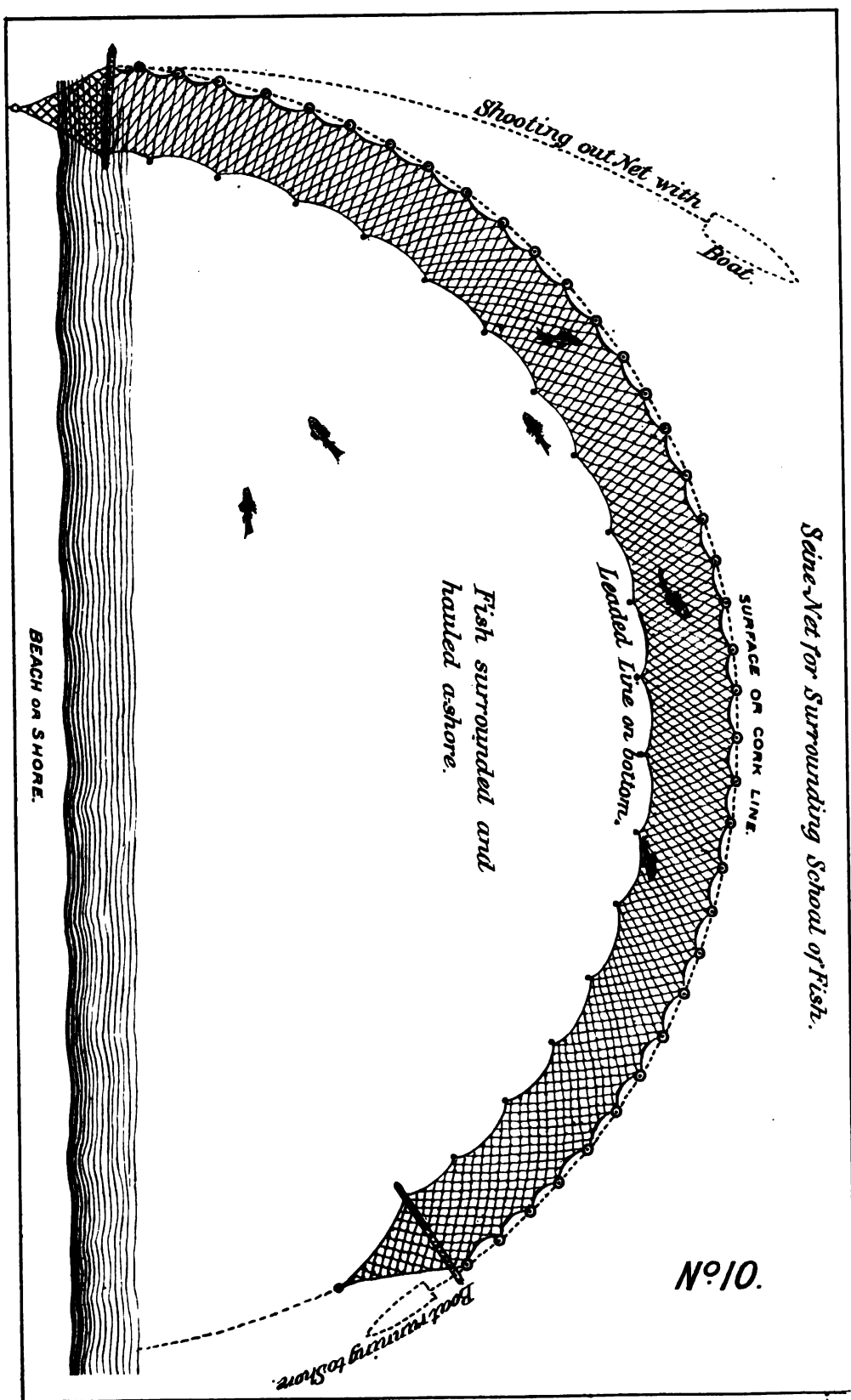
*Fish Trap,
by W^m M. Solomon. F.O.*

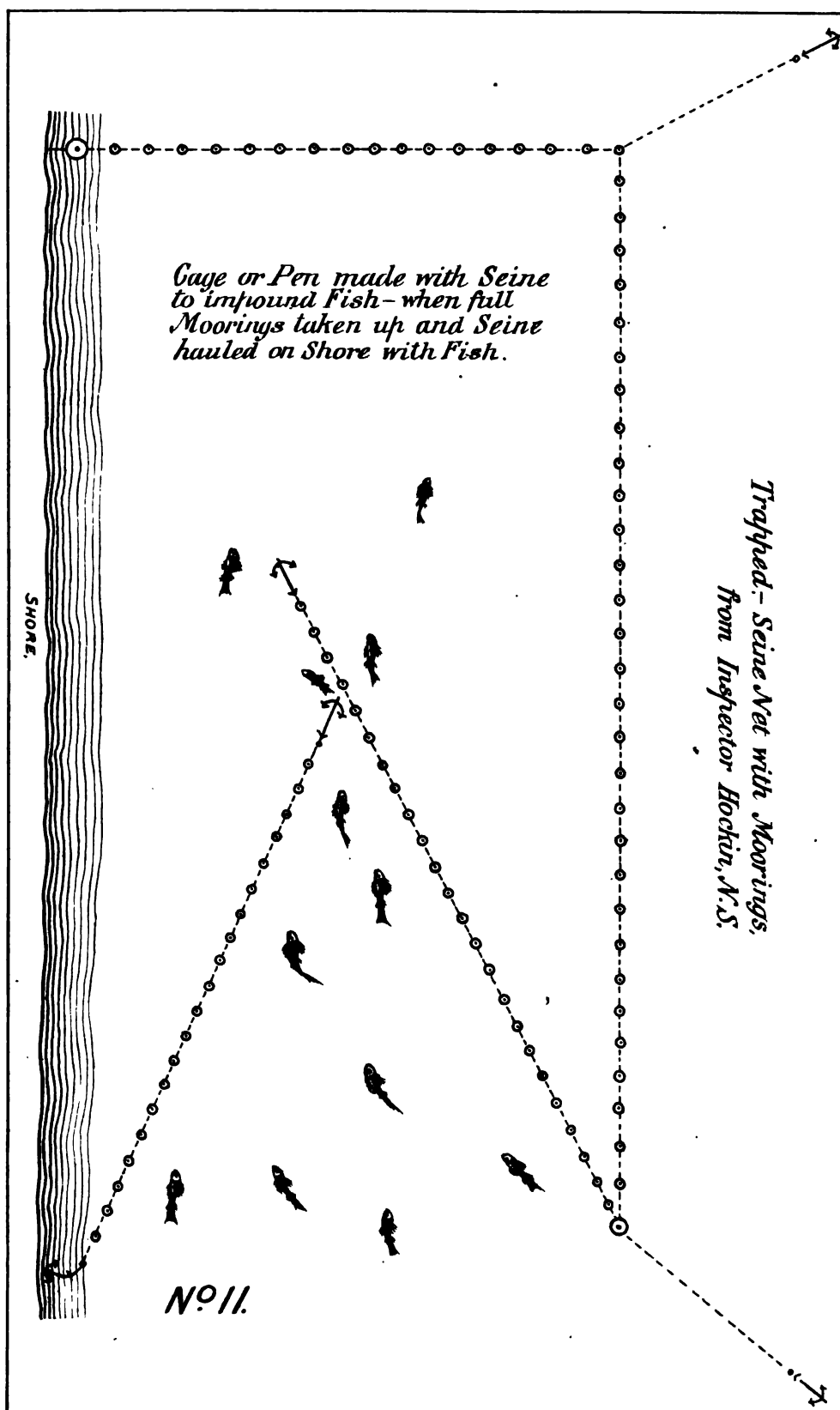




*Traps as shown by
David Evans, F.O.
Chester, N.S.*







FISH-LADDERS.

THEIR NECESSITY FOR THE MAINTENANCE OF FISH LIFE WHERE MILL-DAMS
AND OTHER IMPASSABLE BARRIERS EXIST.

This fish-ladder question is one of vital importance for the maintenance of fish life in the rivers streams and other waters of Canada on which natural barriers exist, or where artificial barriers have been built, which shut off the passages of fish to their breeding grounds to the waters above, and in addition to this prevention for the upward migration of fish, these dams invariably form deep holes or basins just below them, in which the fish collect in large numbers, waiting, as it were, for some opportunity to ascend the difficulty before them. Here they become the easy prey for the fisherman and poacher, who, regardless of the fact of these fish being penned there, mercilessly slaughter them in every conceivable way.

It is not an uncommon occurrence to see at the foot of the dam or other barrier, at the running times of fish (which means the time their instinct leads them onward to their spawning grounds), scores of men and boys with every kind of engine of destruction—nets, spears, hooks, traps and even guns—catching and killing these ripe, pregnant fish, with the fruitful eggs flowing from their bodies, besmearing the boats and banks of the stream. If it were not for these impassable barriers stopping the fish they would pass on, and not become impounded in these pools or pens, and opportunity would be given them to scatter their eggs here and there all along throughout the streams and other waters above, where nature had directed them to go.

Whilst there are many natural barriers to be found shutting off the ascent of fish, there are also innumerable artificial ones, which have been permitted to be built by man, such as mill-dams, sluices, &c. Many of these are placed directly across the streams, and these are the principal causes which have brought about the great destruction of fish life which is now so sadly experienced throughout the country, and which so frequently calls forth the attention of the Fisheries Department by applications to erect fish-passes and other contrivances by which the remnant of the fish in many streams may be enabled to surmount these barriers and reach their spawning grounds to keep up their species.

Great ingenuity has been shown by inventing various kinds of appliances to give facilities to the fish by which they could surmount these natural and artificial barriers. In some cases the old original zig-zag fish-ladder in use for the past century stands supreme in many parts of the world, and has rendered great service both for introducing and maintaining fish life where it has been properly put up.

Besides the old ladder just referred to, later designs have been invented in Canada. One, known as Rogers' ladder, has been put in operation on some streams, and conflicting accounts are given regarding its proper working; and later Hockin's fish-pass has been patented, and whilst its simplicity of build and apparent utility bids fair to supersede all others, it has, nevertheless, not had sufficient trial to warrant perfection in its practical working to give authority to the Department to adopt it as the governmental fish-ladder which shall be applied to all places where such an improvement is required to advance the fisheries interests throughout the country.

Artificial barriers, such as dams, may in the great majority of cases be found suitable to have built in or attached to them passes of the latter kinds, such as Roger's and Hockin's; but where natural barriers, such as waterfalls over rocky ledges, &c., these ladders can not, as a rule, be applied, without great expense in blasting out a locality for the pass. In such cases the old zig-zag pass will still hold its place of superiority. If, perhaps, by some modification of the Roger's and Hockin's ladders they could be somewhat satisfactorily applied below the barrier; but the main object of excellence over all others now claimed by these patentees is, that their location is in the pond above the dam, or other barrier to surmount.

In view of the great necessity that exist for establishing some one perfect fish-ladder by the Department, which shall in all cases be erected wherever fish are prevented from passing up the river and other streams to spawn, by reason of mill-

dams or other obstructions, the undersigned would suggest that the Department should cause one of Hockin's fish-passes to be erected on some river, or other stream which the more important kinds of fish are known (or have been known) to pass up to breed, and at the head or outlet of such pass build a large cage, or trap, into which all fish ascending the ladder must enter, and become impounded until liberated—such pen and ladder to be placed under the special guardianship of some competent and trustworthy person during the period in which fish are on their migration. In this way, if the ladder shall prove its utility and efficiency for carrying fish over the dam, the fish so passing through the ladder must also enter the cage or pen at its head.

In this way the question will be practically solved regarding the efficiency of the pass, and in this way the Department could come to a satisfactory conclusion that the money granted for erecting fish-passes over dams, &c., was properly spent; and that facilities were at hand by which many rivers and streams now almost barren of fish, in which they were formerly plentiful, could be made again reproductive.

The undersigned has been instructed on several occasions to visit and inspect certain fish-ladders in different parts of the country, and in every case has found them to be perfectly useless, either from unsuitability of location or want of proper construction, the consequence of which has been that these passes, which cost considerable sums of money to help sustain the fisheries of the locality, acted the reverse way, by giving greater facilities to persons to kill the fish at the entrance of these passes, and by squandering the money in the construction of them—thus showing the necessity that exists for adopting the most perfect fish-ladder now known, and compelling the owners of mill-dams to put in these passes, under the requirements of the Fisheries Act, sec. 13. This want of a duly authorised fish-ladder, and the delay in having an efficient one put in every mill dam or slide or other obstruction in all of the streams of the country, is telling most severely against the keeping up of fish life by the natural as well as the artificial methods of reproduction.

In connection with these remarks on the fish-ladder subject, I beg to append the following as being quite pertinent:—

HOCKIN'S NEW FISH-WAY.

One of the problems which has occupied attention for some time has been that of reconciling the use of the water power of the country with the fisheries interest. Mill-dams across a river are no doubt a necessity, but at the same time if anadromous fish—that is, fish which live in the salt water but spawn in the fresh water—cannot have access to their spawning grounds, in a very short time they become extinct in the river, and the coast fisheries in the country are thereby materially affected, for to quote the late Professor Baird, the eminent ichthyologist:

“It is well known that while anadromous fish were present on the rivers there was an ample supply of cod, haddock, halibut, hake and various other species close into the shore, for the reason that these fish feed upon and therefore follow anadromous fish as they come upon our shores for the purpose of ascending the rivers. And again, when the fish have spawned in the rivers and lakes and, the young fish reached a certain stage of development, they descend the rivers in immense numbers and are fed upon by deep-sea fish.”

There can be no reasonable question that the great decrease in numbers of anadromous fish has been caused in large part by human agencies—(mill-dams, sawdust in rivers, destruction of the fish while in the rivers to spawn)—and that to this fact it is owing that year by year the location of deep-sea fish it is found further and further from the shore.”

It will be seen, therefore, that any contrivance which would enable the water power of the country to be used, and at the same time afford free access of fish to their spawning grounds, must greatly add to the wealth of the country. Efforts in this direction have been made, with some degree of success, by means of an inclined plane to enable a fish to get over a dam. The most elaborate of these structures is that of the United States Commissioner of Fisheries, Marshall McDonald. This, however, cost a large sum to build. The Rogers' fish-pass, which has been used by the Department of Fisheries for some years, is constructed on this principle, and there are several others. We give a cut of a recent invention by Robert Hockin, ex-M.P.P., of Pictou, Inspector of Fisheries for eastern Nova Scotia, which has been patented in Canada and the United States, and application has been made for a patent in Great Britain and the continent, the simplicity and apparent practicability of which will probably lead to its supplanting all other systems. It is constructed of a series of successive compartments, formed by longitudinal side walls and subdivided transversely by partitions—(*g*) forming compartments (*h*) and provided with a floor (*j*). The partitions (*g*) have each an aperture (*k*) near or at the bottom, and preferably in line with one another, and with a like aperture (*j*) in the dam (*a*), so that all the water fed to the compartments will pass through the aperture in the dam into the first compartment and thence into the several compartments successively. The water from natural causes diminishing step by step in each of the compartments, and finally flowing out of the last com-

partment into the river below, under a head of 18 inches or 2 feet, and therefore with a velocity so reduced that fish can easily contend against it, swim into the compartment, and thence through the several compartments into the dam above. A fish-way built on this principle 28 feet long will overcome a head of water which would require a pass 80 or 90 feet, built on the incline plane principle, while the great length of the latter and the fact of its being near the surface renders it very liable to be destroyed by ice. A Hockin pass built inside of a dam, from the bottom upwards, does not present any hold for the ice. Again, incline plane passes, being fed from the surface, are liable to be choked with floating debris, and are subject to frequent changes in the height of water in the dam, requiring attention to open gates to suit the height. The Hockin pass being fed from under the surface is not liable to be choked, and is always supplied with a sufficient quantity of water. As a matter of fact, it has been found that the quantity of water vented by this fish-way is so little that its loss is not felt by the mill-owner. The Department of Fisheries have caused several of these fish-ways to be built, the one in Cumming's dam, Melrose, Guysboro, being the first or experimental pass. The fishery officer in charge, Thomas McKeen, says: "I regard this as a perfect fish-way, almost equal to the natural stream." One has been put in the dam at Tidnish, Cumberland County, known as Doyle's. The owner of the dam says the fish-way is a great success and has met with general approval. We have examined an excellent working model, and were struck with the simplicity and apparent efficiency of the invention. It may be explained that the cut is only for the purpose of illustrating the principle. Fish-ways are set within the dam with the outlet into the river below.

NOTE.—Plates of Hockin's fish-way will be found at page 16 of part I of the supplement to the report of the Department of Fisheries.

9.—RESULTS FROM ARTIFICIAL FISH CULTURE.

(From Officer Sheasgreen's Report, with evidences of successes of Salmon Culture from the Miramichi River Hatchery.)

In order to show that this institution is regarded as a benefit by all the fish dealers, and by the greater part of the net fishermen themselves, who were at one time the most sceptical, I will submit the following opinion expressed by these men:

John Betts, Esq., a fish dealer and shipper at Derby, South-West Miramichi, who owns and controls several sets of nets on that branch of the river, says:—

"I am a firm believer in the method of breeding fish by artificial means. I have now been in the salmon fishery business for quite a number of years, and I maintain, through my experience, that artificial breeding for the past eight years has been the means of sustaining the life in our fishing industry on the Miramichi. It is my belief that the theory which some advance, viz., that the different runs of fish which enter our river belong to different species is sheer nonsense. It is certain that we have different runs of fish during the autumn, but all belong to the one species, for where is the person who can state that ever a bright salmon was met with during the spawning season. The catch of fish on this river during the past three or four seasons does not show the slightest signs of decreasing, which, considering the enormous strain that is year by year put upon our waters, speaks very favourably for artificial breeding, as any sane man who is acquainted with the habits of parent salmon when depositing their ova cannot maintain that it is by natural means only the enormous demand is year after year supplied."

The Honourable Michael Adams, one of our best fly-fishermen, says: "Salmon were plentiful this season. If it were not for the benefits derived from the fish hatchery the salmon would now be nearly exterminated in our streams."

Jared Tozer, Esq., of the firm of Tozer & McDonald, fish dealers, says: "If it were not for the large numbers of fry that are yearly planted in our rivers from the hatchery the supply of fish would now be nearly exhausted. The catch of salmon by our nets this past season was good."

John McCollm, another fisherman and dealer of North Esk on the North-West Miramichi, says: "Without the assistance received from the successful working of the salmon hatchery which the Government has placed upon our river salmon fishing would have been a total failure long before this time, instead of which we find that this industry is as remunerative as it was twenty years ago. At that time not one-fourth the nets and traps were in use as at the present day, still, the average number of fish taken by each net is greater, although the lower part of the river and bay is literally blocked with netting. Artificial breeding is the only means of supplying the demand that is made upon these rivers every season."

John Fergus, fly-fisherman, says: "Artificial breeding of salmon is a great benefit towards keeping up the supply of this important fish."

Park Gillis, a tide-head fisherman, says: "Artificial fish hatching is beyond any doubt the means of keeping up the supply. The catch of salmon in this vicinity is good each season; and when it is considered how the river is obstructed with nets along the lower parts, one would think it almost impossible for fish to reach this point at all. This shows that they must be plentiful in the river."

Many more opinions similar to the above could be here inserted but as they all agree in saying artificial hatching is a benefit, and that salmon are plentiful, it is useless to do so. It will be noticed that John Bells, Esq., comments upon the theory advanced by some concerning the different "runs" of fish. He therein contradicts the statements of some persons, who cannot deny but that a large number of fry are annually turned out from this hatchery, but who still circulate these statements simply to injure the reputation of the institution among the unthinking fishermen. However, in a very short time all these misleading theories must fall to the ground, as the good results are too evident to be denied by any fair-minded man. The animosity and ill-feeling which extended against establishments of this kind when first instituted have gradually worn away, until at the present time, only the dissenting voices of a few old sceptics, who will never be converted to any modern idea, are to be heard; but the great majority of the fishermen, fish-dealers and others interested in the fishing business are in favour of the artificial work, plainly seeing that it is impossible for the natural means to keep up the supply with the demands now made upon it.

In order to show what a large number of salmon are taken in this river during one season, let us take Mr. Jared Tozer's nets for example—the north four sets in this vicinity, from which he has taken over 1,000 salmon. This number of nets occupy about two miles of the river. It shows an average of 250 fish to each net. It must be borne in mind that these are short river sets. What an enormous quantity of fish must be taken in the lower 30 miles of the river and bay, where the nets are twice and sometimes nearly three times as long and where nearly double the number of fish will be taken from each net; and still after all this destruction the fish are very plentiful in the upper parts of the river, where fly fishing was also unequalled during the past season. This certainly shows that salmon are abundant in these waters, and points most conclusively to the fact that artificial breeding is the remedy which has restored the almost depleted state of the waters of this river, in which they were a few years ago, and should place the great benefits which are already derived from this institution beyond doubt in the minds of thinking men.

"ST. JOHN, N.B., 10th December, 1890.

SUCCESSFUL RESULTS OF TRANSPLANTING RESTIGOUCHE SALMON FRY INTO THE
NIPISQUIT AND MIRAMICHI RIVERS:

"ALEXANDER MOWAT, Esq.,

"Officer in charge Restigouche Hatchery,

"Campbellton, N.B.

"DEAR SIR,—In reply to your favor of the 8th inst., enquiring 'If you have received any benefit from the planting of Restigouche fry in your river for the past number of years?' I have to state, that since the planting of Restigouche fry in the Nepisquit River, in 1883, I have on several occasions observed that a very considerable number of the grilse were undoubtedly of the Restigouche kind, and distinct from the native Nepisquit grilse; and I have, as a consequence, expected them to be followed in due season by a large number of salmon of the Restigouche type. In this expectation I have been disappointed, having only observed a small number of the salmon that were not of the true Nepisquit type. I attribute the cause of the absence of a fair return to the Nepisquit of full grown salmon from the planting of the Restigouche fry, to the fact that the fish, being large, are impounded in the traps, pounds and bag-nets so extensively used down the coast; while some of the smaller Nepisquit salmon get through the nets and come on to the river. When a Restigouche salmon bound for the Nepisquit gets there it is early in the season,

before the salmon beach nets are set or when they are disordered by rough weather.

"This year, early in the season, I, and my friend fishing with me, killed six large Restigouche salmon at the Paveneau Falls of the Nepisiquit, but saw none later on.

I may here mention that except as provided in 1883, I have always been opposed to the manner in which the fry have been planted, for lack of proper facilities for wide distribution of the contents of each can of the young fish in well chosen parts of the river, instead of being dumped from the contents of the cans '*en masse*,' cart load after cart load, where the highway chanced to come near the river.

"I am assured that the gentleman riparian owners, and lessees of the fly fishing of the Nepisiquit River, will fully contribute towards the cost of any well defined and practical plan for the reception, detention and feeding of the young fry through the first season, until they can better take care of themselves.

"Your's truly,

"J. DE WOLFE SPURR."

(From Officer Alexander Mowat's Report.)

CAMP ADAMS, NEWCASTLE, N.B.,

MAIN NORTH-WEST, 2nd July, 1890.

MY DEAR MR. MOWAT,—Thanks. Your young salmon fry arrived in fine condition and were carefully placed in pools. We are experiencing the results this season. Already we have captured seven of your fish 17-18 lbs., and yesterday one by Mr. Brown, of Colorado, 23 lbs.—the largest fish yet caught at Camp Adams. This person was more than rejoiced, and carries him home as a trophy of victory. I wonder how long it would have taken to convince certain sceptics that we could solve this problem in so short a time. Our catch since 19th, June to date, 33 salmon, 32 trout. Touching the latter, we only count trout weighing over 3 lbs.

Your most respectfully,

M. ADAMS.

THE SUCCESSFUL STOCKING OF THE HUDSON RIVER WITH "SALMO SALAR," WHERE THEY HAVE NOT BEEN KNOWN FOR THE PAST CENTURY.

The "Forest and Stream."

"Salmon in the Hudson River had been noted by scores this season. A fish-way have been put into the the dam, and the fish are going over that obstruction in large numbers. The stocking of the Hudson with salmon may now be regarded as an established fact, or at least as a enterprise for which success can with excellent reason be promised. There are other dams, and falls yet to be provided for with fish-ways, and now that the above results are shown it would be only folly to postpone the task. The Hudson as a salmon river is destined to be famous."

From "Fishing and Shooting."

"The idea of stocking the Hudson River with salmon originated with Mr. Fred Mather, who made the suggestion to the late Prof. Baird, who was then United States Fish Commissioner, and the first eggs were hatched and fry planted in 1882. The State made an appropriation for building fish-ways with dams at Mechanicsville and Fort Miller, and these fish-ways are being built. The following is related with regard to salmon in the Hudson in July, 1890:—

"The gates of the Hudson River Power and Pulp Company were opened to drain down the water, so that it would not flow over the dam during the progress of putting in a fish-way in the 16-foot stone dam across the Hudson River, and over one hundred salmon were counted in the shoal water thus created at its base as they retreated back into greater depths. They were from 1 to 3 feet in length, and

probably averaged from 5 to 8 pounds in weight. The largest salmon caught here this season by angling measured 30½ inches, and weighed 22 lbs. 7 ozs. The fish-way is now under construction; when completed it will allow the salmon to pass the river to the shoals and tributaries they seek for spawning purposes. * * * These fish are all the results from the placing of salmon fry on the Hudson, commenced eight years ago by Col. Fred. Mather, from the United States Hatchery, Cold Springs; L. I., at the request of N. Cheney, Esq., angling editor of *Shooting and Fishing Journal*.

RESULTS OF ARTIFICIAL WHITE FISH CULTURE.

(From the Report of the State Commissioners of Fisheries for Pennsylvania, U.S.A.)

The people realize that fish propagation is no longer an experiment. Hundreds of depleted trout streams now restored to good condition and filled with fish attest the success of restocking.

The increase in the catch of shad in the two great rivers of the commonwealth, the Susquehanna and Delaware, bears witness to the beneficial results of the artificial propagation of this delicious fish, and indicates a future plentiful supply that will cheapen its price to all.

Nor must we forget the wonderful increase in the catch of white fish in Lake Erie, where as late as the year 1885, the supply was so nearly exhausted that the fishermen most largely engaged hesitated to embark in an enterprise that promised but scant and profitless returns. This result is directly traceable to the great plants of fry in that Lake by the hatcheries of Pennsylvania and those of the neighbouring States bordering on the lake.

The yield of white fish in Lake Erie during the past season has been greater than the yield of any season for the past twenty years, and larger than the combined catch of all the other great lakes, and brought to our city of Erie alone a return of over three hundred thousand dollars.

Fourteen million six hundred thousand (14,600,000) white fish fry, and all distributed in good condition, from two to six miles from the shore in Lake Erie. The white fish hatcheries established by the States of Michigan, Ohio and Pennsylvania, with that of the United States Commission, have effected a revolution in the fishing industries of this lake. It will be noticed that the catch of whitefish was very largely in excess of the catch of 1886, which only amounted to 61,500 pounds, as stated in the last biennial report of the Commission. The catch of 1888 amounted to 2,200,000 pounds.

NOTE.—By Mr. Wilmot—It may be here stated that the year in which, the 14,600,000 fry were put out from the Erie hatchery, 56,000,000 whitefish fry were put in the waters of Lake Erie from the Canadian hatchery at Sandwich, Ont., and that previous to that year 248,650,000 fry were also planted in the waters of Lake Erie from the Canadian nursery, and if the output of the years since be added, there will be shown a grand total of 377,775,000 whitefish fry turned out from this one Canadian hatchery.

The above report for the year 1890 is respectfully submitted.

SAMUEL WILMOT,

Superintendent of Fish Culture for Canada.

FISH CULTURE 1890.

APPENDICES.

REPORTS FROM THE SEVERAL OFFICERS IN CHARGE OF FISH-BREEDING ESTABLISHMENTS IN THE SEVERAL PROVINCES OF CANADA FOR 1890.

1.—FRASER RIVER HATCHERY.

PROVINCE OF BRITISH COLUMBIA.

REPORT OF THE OFFICER IN CHARGE OF THE FRASER RIVER HATCHERY FOR 1890.

I have the honour to submit my seventh annual report of this hatchery, together with a statement of the fry distributed and eggs collected in 1890.

From the supply of eggs collected in 1889, consisting of 9,233,000, the following numbers of fry and semi hatched ova were distributed on the dates and at the places below named :—

| | |
|---|------------------|
| December 17, 1889,—Eyed ova, Nanaimo River, Vancouver's Island, near waggon bridge..... | 500,000 |
| December 25, 1889,—Cowichan River, above railroad bridge..... | 500,000 |
| February 4 1890,—Sent to experimental hatchery, Ottawa | 100,000 |
| March 5, 1890,—Fry in Pitt Lake, half-way up north side | 800,000 |
| March 27, 1890,—Coquitlam River, below C. P. R. bridge | 320,000 |
| March 31, 1890,—Pitt River, head of lake..... | 480,000 |
| April 7, 1890,—Stave River, 1½ miles up..... | 640,000 |
| do 9, 1890,—Harrison River, at foot of rapids..... | 1,040,000 |
| do 11, 1890—do do | 1,120,000 |
| do 17, 1890—Nicomekle River, Surroy..... | 60,000 |
| do 19, 1890—Pitt Lake, half-way up on south side,... | 570,000 |
| do 21, 1890—Sumas River, near the mouth. | 510,000 |
| Total..... | <u>6,640,000</u> |

All of the above were obtained from fish which were caught in traps at the mouth of Morris Creek, where it flows into the Morris Lake.

There were not any eggs or fry received here from any other hatchery in the Dominion; but 100,000 eggs of the (O. Nerka) "Suckeye" were sent on the 4th of February to the experimental hatchery at Ottawa, which I learn reached in good condition.

The ova which supplied the above number of fry were all obtained from one species (O. Nerka) or "Suckeye," which are the principal commercial fish now caught in the waters of British Columbia.

Capture of Parent Fish and Collection of Ova.

There was no memorandum kept of the number of fish caught in the trap or with the drift nets this season, or of those that were stripped; but, as usual, the number was very large.

It is almost impossible to keep a record of the small salmon passing through the trap without a salmon register; And if the Department constructs the new pen which I have suggested, I would recommend having a register put in it.

Owing to the lateness of commencing operations this season the majority of the "Suckeye" salmon had ascended the Morris Creek before we could set our traps, and a few days after we got them in an exceptionally heavy of rain commenced, which lasted for ten days, raising the stream, overflowing its banks and carrying with it large quantities of logs and rubbish, that tore away the pens and allowed all the fish that had been captured to escape. From this misfortune, therefore, we only secured 1,000,000 eggs, where in previous seasons we obtained our full supply.

As the best of the season was then passed, and the fish had all gone out of the lake into the mountain streams beyond our reach, we had to resort to drift-net fishing on the Harrison River rapids to secure a supply, which was found to be a slow and expensive method. The fish captured with the gill-nets were unsatisfactory, as many of the females were found to be spent, or partially so, whilst others had to be kept for ten or fifteen days before they matured, during which time a large number sickened and died, owing to the rough method of capture by gill-nets and confinement in the retaining pens. We left the hatchery, to commence spawning operations, on the 10th of October, and finished on the 18th of November, securing in all 3,861,000 eggs, all of the Nerka or "Suckeye" species.

Condition of the Hatchery.

The hatchery is in good condition, the eggs are doing much better than in previous seasons, the rate of mortality among the ova is much less, and they are all looking very healthy. Upon their arrival at the hatchery they were immediately put in the wire hatching baskets, and distributed thinly, so that the supply would extend over the entire building. This, together with the careful stripping of fish at the spawning grounds, which was done entirely by myself and only one assistant, and by increasing the supply of water by the erection of a new flume, has been the principal cause of the present success.

Repairs.

The hatchery should have an entire coat of paint outside, and the walls white-washed in the hatching room. The walls of the dwelling portion should be painted and a new kitchen floor laid. The total cost would be about \$300.

I think it inadvisable to expend more money to increase the capacity of the present hatchery, as I am satisfied that in a very short time the Province will require another and much larger hatchery, with a capacity of putting out 25,000,000 of fry annually, in order to replenish the Fraser and other waters, which are bound in the near future to be reduced in their salmon yield, on account of the enormous quantity which are being caught each season.

Such a hatchery could be now built on the Morris Creek on Harrison River, with but little more expense than for the erection of the present one six years ago.

The good result from the present hatchery has now been clearly proven from the past two seasons' enormous runs of fish in the Fraser River.

The small streams around the Harrison, and other places where the fry have been distributed, were quite as thickly crowded with salmon as last year, while the fishery guardians and others on the Nanaimo and Cowichan Rivers inform me that the "Suckeye" salmon are appearing each season in increasing numbers.

I have the honour to be, Sir,

Your obedient servant,

THOS. MOWAT,

Officer in Charge.

2.—SYDNEY HATCHERY.

PROVINCE OF NOVA SCOTIA.

REPORT OF THE OFFICER IN CHARGE OF THE SYDNEY HATCHERY FOR 1890.

SIR,—I have the honour to submit herewith my annual report upon the work done at this hatchery during the past year.

Distribution of Fry.

As stated in former reports, I laid down in the hatching troughs 2,540,000 ova, from which 1,953,000 fry were hatched and distributed in the following streams, viz. :—

| | |
|--|---------|
| Margaree River (Inverness Co.)..... | 200,000 |
| Bonacadia do (Cape Breton Co.)..... | 50,000 |
| Sydney do | 350,000 |
| Ball's Creek do | 100,000 |
| Trout Brook do | 150,000 |
| Black do do | 100,000 |
| Grand Lake do | 100,000 |
| Estrasonia River do | 70,000 |
| Salmon do do | 100,000 |
| George's do do | 100,000 |
| Leitch's Creek do | 50,000 |
| McLean's Brook do | 75,000 |
| Rory Brack's Brook do | 75,000 |
| Baddeck River (Victoria Co.)..... | 150,000 |
| Middle do do | 150,000 |
| Grand do (Richmond Co.)..... | 50,000 |
| Tier do do | 50,000 |
| Hatchery Brook (Cape Breton Co.) | 33,000 |

Total..... 1,953,000

I regret not having been able to attend to the application for fry for the Mabou River. The application came too late, and to attend to it would upset all other arrangements. The application called for 1,000,000 fry, which was more than half my supply. I presume it meant 100,000, which I think would be sufficient for that river. Hereafter, I will make an allowance for that river of 50,000 or 100,000 fry.

Collecting Parent Salmon and Eggs.

This fall I succeeded in securing a fair supply of parent salmon. These were kept in good condition at the several fishing stations till ready to spawn. The following table will show the number of salmon caught, and the streams in which they were taken :—

| Name of River. | Females. | Males. | Total. | No. of Ova. |
|--------------------------|----------|--------|--------|-------------|
| Margaree..... | 20 | 10 | 30 | 100,000 |
| Margaree Big Inlet | 1 | 2 | 3 | 20,000 |
| Lower Middle River | 14 | 16 | 30 | 60,000 |
| Upper Middle River..... | 127 | 103 | 230 | 600,000 |
| Sydney River..... | 53 | 39 | 92 | 318,000 |
| Salmon River..... | 27 | 25 | 52 | 120,000 |
| Total | 342 | 195 | 437 | 1,218,000 |

This was a most unfavourable season for the catching of parent fish. In the early part of the season the rivers were very low, and salmon could not ascend, although they were reported as unusually plentiful in the tidal waters during the month of September. Then, during the month of October it rained heavily and continuously, so that it was impossible to work the nets. This is particularly true of the Margaree River. Salmon were reported very plenty in the Margaree, but could not be taken. In the Upper Middle River, where nets could be worked, some days the catch was above the average. The few days that nets could be handled in the Sydney River the catch was better than ever before. In all the rivers operated on the salmon were more plentiful than for some years back, but for the reason of the heavy rains we could not catch them.

Condition of the Hatchery.

The present condition of the hatchery is good. This fall the floor and bottom work of the building was found to be in such bad condition that it could not be repaired. All the bottom work had to be taken out and replaced by new material, which necessitated considerable labour and expense. New sills, trimmers, joice and floor had to be put in; also, the posts were considerably decayed, and had to be cut, up as high as the window sills. On one side new rough boards had to be put on outside and inside 3 feet high, and the same shingled on the outside and the inside wainscotted. The building is good now for eight or ten years more without any further repairs. It will, however, require painting, which will cost about \$80 for the outside and \$40 for the hatching room inside.

Increase of Salmon.

The beneficial results arising from the operations of this hatchery are becoming more apparent every year. The early run of salmon in the Mira River this season was far above the average. The few fishermen there, though poorly equipped, did better than for years past. Mr. Robertson, while engaged in building a bridge on the Sydney River, reports having seen more salmon sporting around there than ever before; so much so, he says, that some of the inhabitants decided to furnish themselves with nets for the coming season. Mr. Grantymire, of Little Bras d'Or River, reports having seen shoals of salmon of a very small and uniform size, and in numbers never seen there before. Mr. George Munroe reports the same of the Margaree River, having seen them on several occasions about the Margaree Harbour bridge. Mr. John Brown, at Big Pond Cranberry (entrance of the Sydney River) took 75 salmon in three days, all weighing from 9 to 11 lbs., and in the one week scored 100. I am informed that the Mira fishermen are very poorly equipped, some of them fishing with only the half of an old net, none of them having anything like proper gear. This is true of many of our salmon fishermen, but I understand they are to prepare themselves better for the coming season. The work of this hatchery is only beginning to show itself. Some men are very slow in giving credit to an institution of this kind, especially when they look upon it as experimental. Most of these men never heard of fish culture till this establishment was built, and look upon it as robbing nature of its work.

Land-locked salmon could be very suitably planted in some of our lakes. There is a chain of lakes near Margaree, called Lake Law, which I think would be most suitable for them. Several gentlemen from the States, who are thoroughly acquainted with the habits and requirement of these fish, pronounce these lakes suitable. At present these lakes are practically useless, as far as yielding any kind of fish is concerned. If stocked with land-locked salmon they would become of great value.

I have the honour to be, Sir,

Your obedient servant,

C. A. FARQUHARSON.

Officer in Charge.

3.—BEDFORD HATCHERY.

PROVINCE OF NOVA SCOTIA.

REPORT OF THE OFFICER IN CHARGE OF THE BEDFORD HATCHERY.

SIR,—I have the honour to transmit my report upon the operations at this hatchery during the past year.

I am pleased to be able to inform you that the most gratifying results were obtained in hatching the large stock of ova laid down in the troughs of this institution last season. The trouble experienced in previous years in hatching the salmon trout ova was not met with, and not only here at the central hatchery, but at all the outlying auxiliary hatcheries, the proportions hatched were very satisfactory indeed.

As stated in my last report, the number of salmon ova obtained last season was 2,000,000. In March last I received from the Ontario hatcheries a further supply of 400,000 salmon trout and 2,000,000 whitefish ova. Shortly after their arrival here mild and open weather set in, and as evidences of hatching began to appear, I deemed it advisable to convey those intended for remote points to the smaller hatcheries as early as possible.

This work I commenced on the 15th of March, and the semi-hatched ova were distributed amongst these hatcheries; as follows:—

| | Salmon Trout. | Salmon. |
|-----------------------------|---------------|---------|
| Tusket Hatchery | 40,000 | 70,000 |
| Kempt do | 50,000 | 150,000 |
| Shelburne do | 50,000 | 90,000 |
| Lochaber do | 40,000 | 110,000 |
| Kentville do | 60,000 | ..... |
| Sheet Harbor Hatchery ..... | ..... | 120,000 |

making a total of 240,000 salmon trout and 580,000 salmon ova disposed of previous to the first of April.

As stated above, the most satisfactory success attended the hatching of the ova deposited in these hatcheries—with one exception, that at Shelburne, where considerable loss took place.

After the distribution of the semi-hatched ova, as above, I had still left 130,000 salmon trout, 900,000 salmon and 2,000,000 whitefish ova. The latter hatched early, and were distributed among lakes adjacent to the hatchery, as follows:—

| | |
|--|---------|
| Round Hill Lakes, Annapolis County | 250,000 |
| Aylesford do Kings do | 250,000 |
| Grand do Halifax do | 500,000 |
| Sandy do do do | 500,000 |
| Williams' do do do | 500,000 |

making a total of 2,000,000 of these young fish planted in lakes considered most favourable for their growth.

The remaining stock of salmon and salmon trout were successfully hatched and planted in the rivers of the central portions of this Province, as per following schedule:—

| | |
|--|--------|
| Musquodoboit River, Halifax County | 40,000 |
| Nine Mile do do do | 40,000 |
| Little Salmon do do do | 40,000 |
| Pennant do do do | 40,000 |
| Salmon do Colchester do | 40,000 |
| Stewiacke do do do | 40,000 |
| Wallace do Cumberland County | 80,000 |
| Philip do do do | 80,000 |
| West do Pictou do | 40,000 |
| East do do do | 40,000 |

| | | | |
|------------|-----------------|--------------|---------|
| Middle | River, Pictou | County..... | 40,000 |
| Gaspereau | do King's | do | 40,000 |
| Cornwallis | do do | do | 40,000 |
| La Have | do Lunenburg | do | 40,000 |
| Gold | do do | do | 20,000 |
| Middle | do do | do | 20,000 |
| East | do do | do | 40,000 |
| Annapolis | do Annapolis | do | 40,000 |
| Round Hill | do do | do | 20,000 |
| Bear | do Digby | do | 40,000 |
| Kennitcook | do Hants | do | 40,000 |
| Tantramar | do Westmoreland | do N. B..... | 40,000 |
| Total..... | | | 900,000 |

Total Distribution from Bedford Hatchery, 1890.

| | | | | | |
|-----------------------------|--|-------------|---------|-------|-----------|
| Salmon fry..... | | | | | 900,000 |
| Salmon trout fry..... | | | | | 130,000 |
| Whitefish fry | | | | | 2,000,000 |
| | | | | | |
| | | Sal. Trout. | Salmon. | | |
| Eyed ova sent to Kempt..... | | 50,000 | 150,000 | ..... | 200,000 |
| do do Shelburne | | 50,000 | 90,000 | ..... | 140,000 |
| do do Tusket..... | | 40,000 | 70,000 | ..... | 110,000 |
| do do Lochaber..... | | 40,000 | 150,000 | ..... | 190,000 |
| do do Kentville | | 60,000 | | | 60,000 |
| do do Sheet Harbor | | | 120,000 | ..... | 120,000 |
| | | | | | |
| Grand total..... | | | | | 3,850,000 |

Throughout the whole of this distribution the most perfect success was met with, no loss whatever having occurred, notwithstanding, in some instances, long and tedious journeys over abominable roads were undertaken in order to reach the most suitable points on the rivers at which to deposit the young fry.

It will be seen that this distribution extended over the whole of this Province proper, and that every river considered suitable for stocking and could be reached with safety to the young fry received its quota.

The subsidiary hatcheries, of which there are now six in this Province, enable me to reach the most remote points, and many excellent rivers that formerly were beyond my scope are now receiving substantial aid from these points. Further, numerous lakes, quite in the interior, and far removed from all railway or steam communication, are being stocked with large numbers of salmon trout and whitefish. The wisdom of this attempt on the part of your Department to introduce these fish into the lakes of this Province, with the view of endeavouring to create an extensive inland fishery, is being gratefully received and acknowledged by all who are at all interested, or give the matter due consideration; and their confidence in the results of the experiment is shown by the increasing demands for these fish with which to stock the lakes in different localities. Fortunately, these demands can be complied with, as the full hatching capacity of this hatchery, or of the auxiliary hatcheries, has not yet been reached, and without reducing the plantings in those lakes already upon my list (which is not at all advisable), other waters can be embraced, by the addition of more small hatcheries, and the receipt of larger shipments of these ova from the Ontario nurseries in future.

The erection of some additional small hatcheries in the counties of Lunenburg, Guysboro', Digby, Annapolis, and the erection of a more permanent one at Shelburne,

in lieu of the temporary appliance used there last season, would extend the field of operations from this hatchery very materially, and would enable me to reach some very fine streams and lakes in those counties.

I may be permitted to say that the work of artificial fish-culture, as prosecuted in this Province, and although very satisfactory results have already been produced by it, is on too limited a scale to sufficiently affect and further materially the increase of fish.

There can be no doubt existing in the mind of any unprejudiced person who has studied the salmon fishery statistics for the last twenty years that our present supply of salmon is largely maintained through artificial culture. The continual decline in that fishery from 1870 to 1881 shows that unaided the natural production of salmon was insufficient to prevent the continuous decline in the annual catch, and it is also apparent that had no means been introduced to augment the production of young fry that this gradual depletion would have continued until the supply was entirely exhausted.

The beneficial effects of fish-culture began to appear in 1882, and, as is shown by the returns, a constantly increasing catch is reported up to 1887, since which date no further increase has taken place. This may be considered as an evidence that, with the present hatching and producing capacity of the appliances now in use in this Province, the full capacity of our hatchery has been reached, and that without additional efforts are put forth and more hatcheries erected no particular increase in the present annual catch can be expected.

Collection of Ova.

In undertaking this part of my work this season, and guided by my experience of past years, I decided to utilize the Musquodoboit River, in Halifax County, and the West River, in Pictou County, and applied to your Department for permission to do so. On the Musquodoboit River I had in part the necessary appliances for prosecuting the work, and my experience of past years on that stream led me to expect a good catch of spawning fish; but unfortunately for me, heavy freshets set in in August, and enabled the greater portion of the run to enter the river at that time, and previous to my commencing operations.

It has been my practice to commence fishing on this stream each year on or about the 1st of September, and when favourable conditions were met with large catches were made. This season the conditions were unfavourable, and resulted in securing but 57 salmon, as against a catch last year of 270.

On the West River, also, unfavourable conditions were experienced, and the catch was but 10 fish, as against 67 last year.

An attempt was made to secure a portion of my supply from Wallace River, and very good success was obtained in securing the spawning fish; but unfortunately, through the acts of some interested persons living upon this river, I was not permitted to collect the ova. The fish were caught at and below Rhindus' dam, which crosses this river at the head of tide, and were retained in a tank or creel moored in the pond. In this tank were confined 54 of the largest salmon I have ever taken in this Province, and from which I expected to secure 500,000 ova. The particulars of the raid made upon the works, and the destruction of the appliances, and carrying away of the fish, having been already reported to the Department, it will be unnecessary to repeat them here. The loss of these fish occurred at the end of the fishing season, and I was consequently unable to make good this loss by further fishing.

The result of my efforts to obtain a stock of ova for this season's operations was most unsatisfactory and discouraging, and leads me to the conclusion that some more certain means must be adopted in future for this purpose. Whatever system may be introduced, its most essential principle must be the prosecution of the work on such a basis that it will no longer be subject to the ignorant prejudices and depredations of the fishermen living along the streams upon which we operate. But two plans present themselves to me at present—either buy the fish from the net

fishermen during the lawful fishing season, and construct salt-water ponds in which to confine them until ready to spawn, or locate the works on streams upon which there are no inhabitants above the head of tide.

As this question will be the subject of correspondence with your Department during the present season, it will be unnecessary to further allude to it now. The number of fish secured and ova obtained was as follows :—

| | | | | | Ova Obtained. |
|---------------------|----|--------|----|--------------|---------------|
| Musquodoboit River, | 23 | males, | 34 | females..... | 340,000 |
| West River, | 4 | do | 6 | do | 60,000 |
| Wallace River, | 21 | do | 33 | do | Nil. |

making a total of 48 males and 73 females, from which I obtained 400,000 ova. This constitutes the full extent of the stock, and is not one-fourth of the capacity of the hatching troughs. I trust the deficiency may be made up by the receipt of a large supply of salmon trout and whitefish from the Ontario hatcheries.

Water Supply.

Since the change in the arrangement of the hatchery troughs in this hatchery and the substitution of 32 troughs placed transversely in the building for the 14 troughs placed lengthwise, the water supply has been quite inadequate for the hatching and nursing of a large stock of ova. Representations to this effect having been made to your Department, I was permitted during the past season to replace the old 6-inch pipe by one of 8-inch, and now have an abundant supply of water.

Repairs.

Some repairs of a light extent will be required next season. Some leaks in the roof are beginning to show themselves, and should be attended to at once, either by painting the shingles with two coats of some mineral paint, or patching. Painting, I think, is preferable to patching, as the paint will preserve the shingles, and it is said it will make them last ten or twelve years longer. New eave-troughs will also be required, the old wooden ones being now very much decayed and broken away. Some decay is taking place in the foundation of the partition separating the hatching room from the dwelling rooms, and should be attended to next summer. These repairs, with painting the interior of the hatching room, is about all the expenditure required this year.

I have the honour to be, Sir,

Your obedient servant,

A. B. WILMOT.

Officer in Charge.

Dunk River hatchery, P. E. Island, was not in operation in 1890.

5.—ST. JOHN RIVER HATCHERY.

PROVINCE OF NEW BRUNSWICK.

REPORT OF THE OFFICER IN CHARGE OF THE ST. JOHN RIVER HATCHERY, 1890.

SIR,—I have the honour to transmit herewith my report in connection with the operations at the St. John River hatchery for the year 1890.

In the fall of 1889 there were no native fish ova laid down in this house, as the attempt to capture parent salmon on the Tobique River proved a complete failure; neither has there been any fish eggs laid down this season. No effort was made to gather them, although there was a fair prospect of getting quite a number of fish, if it had been so desired. The run of salmon on the Tobique was fairly good; the lessees had them well protected; ten special guardians were employed all summer,

besides a head warden, who looked strictly after them, in order to guard the river day and night. By this means a number of salmon reached the spawning grounds—but under the most favourable circumstances the chances of getting a supply of salmon eggs on the Tobique or Serpentine Rivers to stock this house are very uncertain and unreliable.

In the month of March last I received from the Newcastle and Sandwich hatcheries, Ontario, per Mr. Charles Wilmot, a consignment of whitefish and salmon trout eggs in a semi hatched state, comprising about 1,500,000 salmon trout, 2,000,000 whitefish and 12,000 speckled trout; and later in the month I received 500,000 salmon eggs from the Restigouche, in charge of Mr. Alexander Mowat. They were all in good condition when received, and continued to do well during the remainder of the hatching season, and a fair percentage of young fry were turned out last spring and summer; a small loss took place with the salmon trout. The loss of salmon, and whitefish, and speckled trout, were, comparatively speaking, very light. On the 9th of April last I commenced to distribute the whitefish, and on the 24th of July we finished putting out the salmon and salmon trout. It was a long and tedious operation, requiring care and diligence; but I am able to inform you that the work was done in a good and satisfactory manner, as the subjoined letters will show. Below is a tabulated statement of the several kinds of fish distributed, with the names of the different lakes, rivers, and streams, their locality, and the quantity planted in each, viz.:—

Whitefish.

| | |
|---------------------------------|------------------|
| Magaguadavic Lake, York Co..... | 700,000 |
| Harvey Lake, do | 700,000 |
| Oromocto Lake, do | 300,000 |
| Lakeville, Carleton Co | 300,000 |
| | <u>2,000,000</u> |

Salmon Trout Fry.

| | |
|---|------------------|
| Williamstown Lake, Carleton Co..... | 60,000 |
| Jones Lake, Carleton County..... | 120,000 |
| Oromocto Lake, York do | 120,000 |
| Harvey Lake, do do | 120,000 |
| Magaguadavic Lake, York County..... | 60,000 |
| Chamcook Lake, Charlotte do | 60,000 |
| Foster Lake, do do | 60,000 |
| Meadow Lake, Victoria do | 60,000 |
| Portage Lake, do do | 60,000 |
| Long Lake, do do | 60,000 |
| Frasers Pond, do do | 20,000 |
| Byrams Pond, do do | 40,000 |
| Several private parties, Victoria County..... | 60,000 |
| Turned out at Hatchery..... | 100,000 |
| | <u>1,000,000</u> |

Sea Salmon Fry.

| | |
|--|----------------|
| St. Croix River, Charlotte County..... | 132,000 |
| Toby Guzzle, do do | 72,000 |
| Lake Utopea, do do | 36,000 |
| Magaguadavic River, York do | 32,000 |
| Tobique River, Victoria do | 90,000 |
| Salmon River do do | 60,000 |
| St. John River do do | 60,000 |
| | <u>482,000</u> |

Speckled Trout Fry.

| | |
|------------------------------|---------------|
| Skiff Lake, York County..... | 6,000 |
| Toby Guzzle do | 4,000 |
| | <u>10,000</u> |

Recapitulation.

| | |
|--|------------------|
| Whitefish planted the present year | 2,000,000 |
| Sea salmon do do | 482,000 |
| Salmon trout do do | 1,000,000 |
| Speckled trout do do | 10,000 |
| | <u>3,492,000</u> |

In making the above distribution I took a different method of transporting them from the nursery from the one I formerly pursued. Heretofore, we would start with eight or ten cans of fry at one time. This brought us in continual contact with the baggage-masters on the trains, on account of the great space we occupied, and then we could only make one trip every two or three days. The past season I sent one of my sons with six cans every morning, which was more acceptable to the train men; consequently, we got along more amicably, and by traveling in the night each messenger could start every second morning. By this plan six cans of fry were sent away every morning. This arrangement worked admirably, and gave one of us the opportunity of being daily in attendance to look after the hatchery and young fish.

Repairs to Hatchery.

Before I got the fry all out the floor of the hatching room began to break down, and I found it necessary to secure the services of a carpenter to examine the floor and report what repairs he considered necessary to put the house in proper order. I reported to the Superintendent of Fish Culture the result of the examination, specifying the repairs required and the quantity of lumber needed, when I got orders to ask for tender. I did so, and the contract was awarded to Albert Dixon, who did the work to my entire satisfaction. Beyond this contract, other repairs were made. There are several other repairs that will have to be made next season, such as painting, whitewashing, and some little plastering, especially in the hatching room, office and hall. In all other respects the house is in good order.

It is very much to be regretted that the Department cannot arrive at some definite conclusion whereby this nursery can be supplied with salmon eggs every autumn, without depending upon the other hatcheries for a supply every year, especially when the facilities this hatchery has for the work are so great. It is fully equipped with all the necessary apparatus, with a good supply of pure water the whole year round, and having easy access to and from it by a railway station almost at the door. The whitefish and salmon trout hatched here are beginning to show up in some of our waters; some very fine specimens have been taken from some of the lakes the past year. Quite a quantity of very nice whitefish were caught in the Oromocto Lake the past autumn; this kind of fish was never known to inhabit that lake before. The residents there are unanimous in their opinion that they are the result of the whitefish fry planted in the lake about three years ago. Some nice salmon trout were taken in Chamcook, Skiff and Williamstown lakes, and there can be no doubt but that these fish are abundant in several of these lakes where I planted them three or four years ago, but many of the lakes are controlled by clubs, or private owners, and they will not allow any person to fish therein except with the fly, and it is a well-known fact that this class of fish cannot be taken that way. Some

have been caught by other parties in a surreptitious manner, but they will not willingly give any information about them, at least not publicly. A few parties were prosecuted for poaching in Chamcook Lake the past season.

I have the honour to be, Sir,
Your obedient servant,

CHAS. McCLUSKEY,
Officer in Charge.

6.—MIRAMICHI HATCHERY.

PROVINCE OF NEW BRUNSWICK.

REPORT OF THE OFFICER IN CHARGE OF THE MIRAMICHI HATCHERY, 1890.

I beg herewith to submit my annual report upon the operations in connection with this establishment for the year 1890.

As shown by last year's report, there was laid down in the hatchery troughs, in the autumn of 1889, 1,100,000 salmon ova. The closest attention was given to these eggs during the period of hatching, and I am pleased to state that the best of success was met with during this time, as well as in the transportation of the fry to the different planting grounds upon the head waters of the Miramichi.

Distribution of Fry.

There were 1,022,000 healthy fry distributed as far up the following streams as possible, viz:—

| | |
|----------------------------------|------------------|
| North-West Miramichi..... | 400,000 |
| Stony Brook..... | 50,000 |
| Little South-West Miramichi..... | 300,000 |
| Sevogle River..... | 100,000 |
| Main South-West River..... | 150,000 |
| Stewart's Brook..... | 22,000 |
| Total | 1,022,000 |

In addition to these native fry, I received 40,000 eyed eggs from the Restigouche nursery. These were successfully hatched and planted in the North-West Miramichi and one of its small tributaries.

| | |
|---------------------------|---------------|
| North-West Miramichi..... | 40,000 |
| Stony Brook.... | 15,000 |
| Total | 40,000 |

This shows that the total number of salmon fry distributed from this hatchery in the spring of 1890 amounted to 1,062,000. The 25,000 Restigouche fry, along with 25,000 native, were planted a short distance above the falls on the North-West Miramichi, and at the Honourable Mr. Adam's fishing camp on the same stream, distant about 75 miles by the river from this nursery.

Repairs.

During the summer months all necessary repairing about the ponds, dams and buildings were completed, except the shingling of the roof of the hatchery, which was delayed until after the stock of ova was gathered. The total cost of shingling the roof amounted to about \$106. The dams, ponds and buildings are now all in good

condition, and unless through an accident some unexpected expense is incurred, no further amount will be required during the coming year than may be necessary to carry on the ordinary routine work.

Collecting Eggs, 1890.

The work of collecting parent salmon was not as successful this season as the previous year. This was not due to any scarcity of fish, but on account of the prevailing high water the fishermen were unable to use their nets until very late in the season. Then, before it was possible to procure a sufficient number to fully supply the hatchery, the spawning season set in. The men were kept at work as long as there was the slightest hope of adding to the number, until the cold weather caused operations to be altogether suspended.

The total number of fish amounted to 195. These parent salmon were taken from three different branches of the Miramichi, viz.: North-West Miramichi, 73; South-West Miramichi, 80; Little South-West Miramichi, 42. The total number of females captured amounted to 111, the remaining 84 being males. If the water had not been so far above the usual height during nearly all the time fishing was practicable a far larger amount would have been taken, as the rivers were swarming with fish; but as it was almost impossible to use the nets, at least to any advantage, thousands upon thousands of parent fish passed up beyond our reach. The ova that these fish deposited are now nearly a total loss, as the beds upon which they were placed will have become almost completely bare, leaving the ova exposed to frosts, snow and ice. When salmon deposit their ova during a season that the streams are not above their usual height the ova will not be exposed to as much danger of being laid bare and destroyed after the heavy frosts sets in as it would be if the fish deposited the ova in the streams when they are far above their usual height, such as they were last season. Every one is aware that salmon naturally place their ova upon bars and gravelly shoals. If the one-half of the fish that ascended these streams during last autumn deposited their ova upon bars and shoals at the height the water was at that time, millions upon millions of eggs are now a total loss.

The total number of eggs gathered from 111 females amounted to 810,000, showing an average of about 7,400 to each. Comparing the average number of eggs taken from each female during the last three years, it will be seen that the number increased from 5,530, in 1888, to 7,400 for the present. This, in my opinion, points to the conclusion that the fry which have been hatched here from the eggs of the Restigouche salmon, which are of a much larger family than the Miramichi salmon, are showing some good results, from the increasing numbers of the very much larger salmon which are now to be found in this river.

I have the honour to be, Sir,

Your obedient servant,

ISAAC SHEASGREEN,

Officer in Charge.

NOTE.—The portions of this officer's report, relating to the success of "Artificial Culture" will be found under that heading in the general report on Fish Culture, to which this report is appended.

7.—RESTIGOUCHE HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE RESTIGOUCHE HATCHERY, 1890.

SIR,—I have the honour herewith to submit my annual report in connection with the operations of the Restigouche hatchery for the past season.

As previously reported, 3,022,000 eggs were deposited in the hatchery in the fall of 1889, from which were successfully hatched and planted in the various waters, as follows:—

| | |
|---|------------------|
| Kedgwick River..... | 200,000 |
| Main Restigouche, from Indian House to Kedgwick.... | 400,000 |
| Main River, from hatchery to Indian House..... | 500,000 |
| Upsalquitch River above the Great Falls..... | 300,000 |
| Matepedia River, including lake..... | 490,000 |
| Nepisquit River, Bathurst..... | 200,000 |
| Middle do do | 100,000 |
| Miramichi do | 70,000 |
| Caraquet do | 100,000 |
| Jacquet do | 5,000 |
| Pond at hatchery..... | 4,000 |
| Total fry..... | 2,396,000 |

The above numbers of fry were all planted in the various streams in a fine, healthy condition, with the exception of those deposited in the Middle River, Bathurst. A small loss occurred to this lot, owing to the train being several hours late. The fry were detained too long in the cans, and some of them were in a sickly condition when planted.

Independent of this number of fry, 500,000, semi-hatched or eyed eggs were transferred to St. John River hatchery 17th April, making a grand total of 2,869,000 fry and semi-hatched ova distributed from the Restigouche hatchery the past season; and I humbly beg to draw your Honour's attention to the small percentage of loss, 152,000, or about 5 per cent., from the handling and hatching of this large number of eggs, which must at once convince all unprejudiced persons of the benefit and utility of the artificial breeding of salmon in the Dominion, and more especially considering the authenticated statements that not more than 4 per cent. of the natural-laid ova reach maturity. I have overturned the salmon rids, both on the Restigouche, Prince Edward Island and St. John rivers, after the water has receded late in the fall and left the rids dry, and the ova to perish, and in all instances not more than one vitalized egg in fifty were found; whereas, by the artificial works 95 per cent. of living fish are turned into the streams, and 90 per cent. of the parent fish liberated, which otherwise would have been marketed and their product totally lost to the river.

Government Net at Island.

Owing to the unusual late spring and high water this net was not set out before the 12th June, by which time the major portion of the fish had entered and already passed up the river; therefore, the catch was much less than last season, being as follows:—

| | |
|-------------------------------|------------|
| Net at Island..... | 220 |
| Mission Point..... | 10 |
| Pitt's Creek..... | 30 |
| Purchased from Mr. Adams..... | 59 |
| Total..... | 319 |

Stripping began on the 20th October and continued till the 8th November; 307 fish were found in the reservoir, 175 females and 127 males, from which were collected 1,800,000 eggs. These were packed, as usual, in the trays, and conveyed to the hatchery by scow, and are now in fine condition, and a very successful hatch is anticipated. About a dozen fish died after they were placed in the reservoir, being injured by

escaping through the nets below. There were also a few fish tangled in the nets and drowned. These and all fish that died and were fit for food were sent to the dealers and credited to the Department.

The reason why the net fishermen do not furnish more salmon to us, although offering them full market value for them, is, that owing to the use of the small mesh net creating a wall, and the rush of water through the small meshes, the fish get scared and will not enter the traps; and consequently the netters find their catch 50 per cent. less when using the small mesh; therefore, they all have, excepting Mr. Adams, discontinued giving any more parent salmon.

The hatchery with all its appliances is working very satisfactory; all trays, tanks, troughs, sawcets, &c., &c., were varnished during the past summer, and were in a first-class condition for the reception of the ova in the fall; also, a new boat house, 12 x 30 feet, was erected at the east end of the hatchery. This will be used in general for boat and store house. A new floor was laid in the loft; a dozen new distributing cases were obtained; the old primary log hatchery having outlived its usefulness was taken down, and the material used for a bridge and other purposes on the public road. This old nursery has been one of the greatest factors in making the Restigouche River what it now is, namely, one of the finest salmon rivers on the continent of America.

Repairs to Hatchery for 1891.

The roof and outside of building is much in need of painting, as the first coat is entirely worn off; also, the inside plant, such as troughs, tank posts, &c., &c., should be painted, and the ceiling under the beams lathed and plastered, in order to make the house sufficiently warm and frost-proof, the cost of which would be about \$200. Plant may be also required, such as sawcets and distributing cans.

The Retaining Pond at Hatchery.

This pond is only 40 by 60 feet, 2 feet deep, and was overflowed from the brook during a heavy snow freshet in the spring of 1889, and all the young fry put in the previous year were supposed to have escaped; but such was not the case, as quite a number of "parrs" were to be seen in it this summer, and when a fly was thrown into the pond a dozen or more would rush at it. I caught a few of those, and on examination found they were just about the size of the river "parra." I am firmly of the opinion it would be a very unsafe and expensive undertaking to retain a large number of salmon fry through the winter season, where there is so much frost and floods to contend with. However, I may here mention that the Restigouche Salmon Club are anxious that something of this kind should be done, and talk of making the trial themselves; they have very suitable grounds on their property at Metapedia, and a pure stream of water to supply the ponds with, and if they feel inclined to construct them there till a year old, I would suggest that the Department supply the fry for that purpose.

Net at Mission Point.

As this net for taking parent fish has, comparatively speaking, proved a failure, I would suggest that it be discontinued, and the net located in some better place.

Government Net at Pitt's Creek.

Failing, as I have stated, to capture a sufficient quantity of fish in the Mission Point net, it was deemed advisable, as a trial, to set another net higher up on the river and nearer to the reservoir. This net was not set until the 18th of August. It has always been the opinion of old fishermen that fish do not enter the river after the above date, but between the 18th August and the 1st October some 30 fish were taken in this net. This trial has proved two very important points: first, that more or less salmon enter the river all the season through, from 1st May to 1st October; second, that it is in every way a very suitable locality for catching parent

salmon and conveying them to the reservoir, as it is only two miles above the reservoir. I am pretty fully convinced that with the two Government nets we can generally rely on getting a good supply of fish for the hatchery.

Repairs to Nets and Reservoirs, 1891.

The nets will require repairing and dying, and perhaps another new set. The reservoir will require some new timber and cross-ties and new netting, and five or six hundred new stakes. The whole will probably cost \$200.

Condition of River Catch of Fish with Fly and Nets for 1890.

The net fishery on the estuary and coast was not quite up to the average, although some large catches were made between Petit Rocher and Miscou; but why this falling off in the net fishery while the river was teeming with fish? The elements over which man has no control answers the question. One of the highest freshets ever known on the Restigouche prevailed, bringing down thousands of drift logs and debris of all kinds; this, combined with a heavy easterly storm, tore up the stake nets, overturned and displaced the trap nets on the coast, just at the time when the largest run of fish were entering the river; and while this destruction and loss in the estuary and on the coast was taking place the anglers were rejoicing and having one of the best fishing seasons ever known on the Restigouche, some of the angling parties killing as high as 100 fish in ten day, and eight or ten fish were often taken by one individual in a day. Mr. J. Mowat killed nine fish on a small pool at Deeside, the 5th June, where salmon were never thought of being fished for until very lately. Some 2,000 salmon were taken by anglers with the fly this season on the river. The guardians, lumbermen and all others acknowledge there never were seen so many fish in the Restigouche River as there were this season. Mr. A. Robertson, the Chief Guardian of the Restigouche Salmon Club, told me he went to the head of the Kedgewick River during the latter part of August, when the water was low and clear, and every pool was filled with salmon, and in places he had never seen a salmon before they could be counted in hundreds.

It may not be out of place in this report to give a few figures showing the increase and value of angling property and some of the prices paid during the last season. Some five miles on one side of the stream, near Indian House, brought \$35,000 in cash; only half a mile on one side of the stream, near Upsalquitch, was sold for \$18,000; eighty rods frontage on one side, near Metapedia, brought \$2,000; forty rods, \$1,800; sixty rods front, near Metapedia, \$2,500. Four or five years ago very few of those places could be sold, or even leased—in fact, there was no fishing on them; but since then the river has become one continuous pool, so to speak; every inch of vacant water is largely sought after. Then why should not the hatchery and the many millions of fry that have been planted from it annually the last ten or twelve years be credited with at least a fair share of bringing about this most gratifying state of affairs?

To this I desire to give the testimony of a couple of the lessees* who have been receiving a supply of fry from the Restigouche hatchery for the stocking of the Miramichi and the Nepisiquet rivers. Referring to a paragraph in Mr. Spurr's letter, I beg to say canoes were used in the distribution of fry every year until last season, and no two cans were emptied in one place, but carefully-selected, moss-covered bottoms and grassy-banked pools were chosen, and the fry were distributed in various places throughout twenty miles of the river in fine condition. It was the lessees' own fault if there were no canoes; they were notified to send canoes, but did not do so.

In conclusion, I beg to say that every precaution is invariably taken, both in the hatchery and the distribution of the fry, and performed as economically as possible.

I have the honour to be, Sir,

Your obedient servant,

ALEX. MOWAT,
Officer in Charge.

* The letters referred to above will be found in this report under "Success of Fish Culture," page 41.

8.—GASPÉ HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE GASPÉ HATCHERY, 1890.

SIR,—I beg to submit the annual report of operations connected with the above hatchery during the past year.

Work in Dartmouth River was commenced on 19th May, when preparations were made for the summer. Scows and flats were repaired and other necessary work was carried out. The trays and troughs were varnished, and subsequently the interior of the hatchery was painted, cleansed and aired, and all other appliances fully prepared for the winter labours.

The sphere of our work embraces the three rivers—St. John, York and Dartmouth, all flowing into the basin south and west of Gaspé Bay. The following shows the number of young salmon bred and put out during the year.

| | |
|--|---------|
| St. John River | 136,000 |
| York River..... | 100,000 |
| Dartmouth River { Above the falls..... | 400,000 |
| { Below the falls..... | 170,000 |
| Total..... | 806,000 |

Our operations are solely concerned with salmon, and all were liberated in excellent condition. The planting was commenced on 23rd June and completed on 22nd July, notwithstanding the fact that the majority of the Dartmouth fry had to be conveyed, at the cost of much labour, above the falls. This operation was ordered by the Superintendent. Though involving an expense beyond the previous outlay, it appears to be justified by its more effectual results.

The Department nets were set from 4th June to 29th August in the Dartmouth River, and captured 60 parent salmon. According to instructions, I purchased 23 more from William Stanley, at the current price of \$2 each. When taken from the piers these 83 fish were found to include 33 males and 50 females. The spawning continued from 8th October to 2nd November, and the 50 females produced as follows:—

| | |
|--------------------------|---------|
| 20 averaging 14,000..... | 280,000 |
| 20 do 13,000..... | 260,000 |
| 10 do 18,000..... | 80,000 |
| Total..... | 620,000 |

In September I received instructions to proceed to York River, in order to capture additional fish to stock our hatchery. Owing to the lateness of the season there was considerable scarcity, as salmon had nearly all passed above the Narrows. We succeeded, however in securing 25 females and 12 males. These produced:—

| | |
|----------------------------|------------------|
| 10 females, averaging..... | 17,000 = 170,000 |
| 10 do do | 16,000 = 160,000 |
| 5 do do | 14,000 = 70,000 |
| Total..... | 400,000 |

We thus obtained a total of 1,020,000 eggs from all the salmon in good condition which were placed in the hatchery. It will be observed from these figures that the York salmon were much more productive than those taken in the Dartmouth.

The hatchery itself is in first-class condition, but not having been painted for over twelve years, it is desirable that its extension should be done during the

ensuing year. The estimated cost of it is \$30. The pond in connection with the hatchery requires a new railing to fence it in, as its present condition involves danger to the life of the inhabitants. This would involve an outlay of about \$12. An unprecedented storm swept over this locality on 28th and 29th August. In consequence of this, the Dartmouth River rose over 12 feet in twenty-four hours, and inflicted vast damage on the surrounding country. On these days we lost 8 of our fish, the land around the pond being submerged. We also lost since 350 feet of boom (which is necessary to the protection of our trap net) and part of the net itself, and the stakes. This damage must be repaired in the spring, and will cost about \$16.

During the year we purchased 8 tons of coal for the nursery, at a cost of \$40. I had the pleasure of meeting one of the lessees of the Dartmouth River, who was well satisfied with the number of salmon he had taken with the fly. The number taken this year was a larger increase over previous years. It is the unanimous opinion of anglers that a large number of salmon went up the Gaspé River before the nets were set, thus accounting in part for the well-stocked state of the upper waters. This has been the subject of much favourable comment. The guardian of the York estimates that his river contains many hundreds of salmon—46 were taken with the fly, and as there were considerable less fishing than usual, which practically shows that a substantial increase has taken place over previous years. The St. John is well stocked with salmon fry and smolt; no statistics are available yet, but it must be remembered that there were a large number of nets in tidal waters, and they must have had a successful year. These nets during recent years have made a constant drain upon the river. In view of this fact, and the improved catch, leads to the conclusion that the work of fish culture and protection, as carried on here, confers a benefit on all interested in the salmon industry,

9.—TADOUSSAC HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE TADOUSSAC HATCHERY, 1890.

In accordance with the requirements of the Department, I herewith submit the following report of the proceedings at the Tadoussac Hatchery for the year 1890:—

From the crop of salmon eggs obtained last year, 1,700,000 fry were hatched and distributed in the tributaries of the Saguenay and lakes having a discharge running to the St. Lawrence River. The loss on our eggs was somewhat greater than usual, caused by the ravages of rats entering the hatchery. The temperature of the water remains the same the whole winter—34 degrees—and the eggs began to hatch in May, when the water was 36 degrees.

Following is a list of the rivers and lakes, with the numbers of fry planted in each:—

| | |
|--|------------------|
| Deschene's River, Upper Saguenay, Chicoutimi Co..... | 250,000 |
| A Mars do do do | 250,000 |
| St. John do St. John's Bay do | 125,000 |
| Jacques Cartier River, Portneuf, Quebec..... | 30,000 |
| Mowat's Lakes, Tadoussac, Saguenay Co..... | 995,000 |
| Hatchery Lake, do do | 50,000 |
| Total..... | <u>1,700,000</u> |

The distribution in the Upper Saguenay was done with the assistance of a tug boat belonging to the firm of Price Bros. & Co. All the distribution has been made in all the places under my personal care, with a man to help me in changing and aerating the water in the cans. To take advantage of the coolness of the nights for the fry we left the hatchery at 11 o'clock at night. By doing so we reached the

Upper Saguenay the next morning. By all means it is very important that the greatest part of the distribution should be made in the Upper Saguenay. I claim there ought to be as much pains taken to distribute fry as there is in hatching them.

We set our nets for the capture of parent salmon in May, and everything was ready for the last high tide of the same month. The first salmon was caught on the 27th of May, and herewith is given the catch in detail up to 3rd of July:—

| Date. | Number of Fish. | Males. | Females. | Liberated. |
|-----------------|-----------------------|--------|----------|------------|
| May 27. | 12 | 1 | 7 | 4 |
| do 28. | 14 | 2 | 9 | 3 |
| do 29. | 10 | 3 | 5 | 2 |
| do 30. | 4 | 2 | 2 | 2 |
| do 31. | 10 | 3 | 2 | 5 |
| June 1 (Sunday) | | | | |
| do 2. | 3 | 1 | 2 | |
| do 3. | 4 | | 2 | 2 |
| do 4. | 12 | 8 | 2 | 2 |
| do 5. | 12 | 2 | 6 | 4 |
| do 6. | 12 | 5 | 7 | |
| do 7. | 2 | | | 20 |
| do 8 (Sunday) | | | | |
| do 9. | 7 | 2 | 3 | 2 |
| do 10. | 20 | 4 | 6 | 10 |
| do 11. | 31 | 10 | 6 | 15 |
| do 12. | 42 | 12 | 10 | 20 |
| do 13. | 93 | 18 | 35 | 40 |
| do 14. | 81 | 18 | 28 | 35 |
| do 15 (Sunday) | | | | |
| do 16. | 111 | 15 | 30 | 66 |
| do 17. | 47 | | 17 | 30 |
| do 18. | 71 | | 20 | 71 |
| do 19. | 27 | | 10 | 17 |
| do 20. | 57 | | 12 | 45 |
| do 21. | 102 | | | 102 |
| do 22 (Sunday) | | | | |
| do 23. | 24 | | | 24 |
| do 24. | 18 | | | 18 |
| do 25. | 30 | | | 30 |
| do 26. | 10 | | | 10 |
| do 27. | 15 | | | 15 |
| do 28. | 8 | | | 8 |
| do 29 (Sunday) | | | | |
| do 30. | 20 | | | 20 |
| July 1. | 15 | | | 15 |
| do 2. | 24 | | | 24 |
| do 3. | 14 | | | 14 |
| Total. | 980 | 106 | 219 | 555 |

On the 7th of June it was blowing a north-west gale, the boatmen could not go to the fishery, and next day being a Sunday, I gave orders to open the door of the fishery, and 20 salmon were liberated. As can be seen by the manner our nets were kept from the 20th of June to 3rd July, this was done to ascertain the number of salmon coming in our nets, they were counted and many were liberated at the same tide. Of the number caught, 325 parent salmon were kept in our pond for breeding purposes, and 655 were set free again. There were 185 females, they gave us a crop of 1,879,000 eggs, being an average of about 10,000, all the females being of medium size. The seining of the parent salmon from the pond commenced on the 27th of October, and the spawning time was completed on the 15th of November. The greatest part of the work was done in the last week.

The Salmon Fisheries.

The salmon fishing this season has been very good in this district, the increase from 1886 is very remarkable, with always the same number of salmon fisheries, 12

in all; 14,790 pounds of salmon were taken in 1886; 16,720 pounds in 1887; 24,000 in 1888; 37,900 in 1889, and 61,000 pounds this year, 1890. I am satisfied that this great increase in the catch of salmon is largely the result of the planting of salmon fry in the tributaries of the Saguenay River. For many years salmon have not been so plentiful in our rivers, as in the year now drawing to a close. The largest river in my district, the Ste. Marguerite, is full of parent salmon, by a report made to myself by the president of the Ste. Marguerite Club, Mr. James Grant, of New York. His nephew, Mr. Charles Grant of Montreal, told me that they counted one hundred salmon while passing one pool. The local guardian, Mr. Gravel, reports the same thing. The same good reports come from the Little Saguenay River, St. John River, Eternity River, A Mars River, and as far up as the Shipshaw River in the Upper Saguenay. On the 18th of November, after the wire net of the pond was taken up, about one hundred fine young salmon about 25 inches long, and very fat, came in the pond and mixed with the parent salmon. I called Mr. Plourde, the guardian, to have a look at them, it was high tide at the time, they went round the pond with the old ones and all went away again. On the 16th of October, Mr. Plourde, being at the rocky point of the hatchery cove outside the wharf, saw, quite close to the rocks, a very large number of young salmon, about the size of the ones mentioned above, coming down the Saguenay. He says there were many thousands.

Repairs.

No repairs have been made about the house the past summer, although some were much needed for the last few years. The building, inside and outside, and the wharf are in a dilapidated state; something must be done.

As reported last year, no doubt, in view of economy, it would be better to have a new building, instead of making additional expenditure on this old building. It is erected on a wharf made of slabs, and is becoming every year more and more filled with rats, which destroy many eggs, no matter what precaution is made to prevent it.

Distribution of Fry.

As the distribution of fry is the most delicate part of our work, and upon which depends all good results therefore everything should be done to facilitate it. Tadoussac is certainly the right place, with its natural pond, to keep the parent salmon during the hot season, and as the Tadoussac Hatchery is intended for the Saguenay River, it would be far better to have the hatching located at the Upper Saguenay, thus saving, every year, a large sum of money in the distribution of the fry, and with better chances of success, as there are so many streams of the purest water to plant the fry in.

The inconvenience of the small lake here which gives the water supply to the hatchery, is that the ice remains too long on it in the spring, keeping the temperature very low, and retarding the hatching of the eggs. Last year the ice on the lake broke up on the 18th of May. And as soon as the ice is all melted, the temperature of the water goes up very fast, the sun and the heat having great power on the small surface of water in this lake. I have always found it unsafe to keep the fry after the 20th of June, and as I never put out the fry before the sack is fully absorbed, it gives us a very short time for the general distribution.

For many reasons if the hatchery is to be rebuilt, I would suggest the Shipshaw River, in the Upper Saguenay, as a very central and desirable place. This river is a splendid one, with its pure and abundant supply of water coming through a wild country and affording facilities for the distribution of fry in it, and also in the other waters of the Saguenay by land and by water.

The erection of a good building to hold from five to six millions of eggs, at a cost of a couple of thousand dollars, would, in a few years, repay what it now costs for a tug, and boats and carters, and instead of planting a few thousands of fry up river as at present, millions could be planted for less money and with more safety. All

the windows of this old building could be used for the new one, and by pulling down the old hatchery and carrying away the slabs forming the wharf, and using all the heavy timber found suitable to improve and extend the dam of the present reservoir up to the rocks, a splendid pond would be had to keep a thousand parent salmon if wanted.

I have the honour to be, Sir,

Your obedient servant,

L. N. CATÉLLIER,

Officer in Charge.

10.—MAGOG HATCHERY.

PROVINCE OF QUEBEC.

REPORT OF THE OFFICER IN CHARGE OF THE MAGOG HATCHERY, 1890.

In accordance with the requirements of the Department, I beg herewith to submit my annual report for the past year.

On the 26th of March, 1890, two millions whitefish and two millions salmon trout eggs were received, in good condition, from the Newcastle Hatchery.

The small fry from the hatching of the above-named eggs were successfully planted on the following named waters, to wit:—

Whitefish.

| | |
|---|------------------|
| Lake Megantic, County of Megantic..... | 100,000 |
| Massawippi Lake, County of Stanstead..... | 100,000 |
| Memphremagog Lake, Counties of Brome and Stanstead. | 800,000 |
| Orford Lake, Counties of Brome and Sherbrooke | 200,000 |
| Brome Lake do do | 100,000 |
| Total..... | <u>1,300,000</u> |

Salmon Trout.

| | |
|---|------------------|
| Megantic Lake, County of Megantic..... | 100,000 |
| Massawippi Lake, County of Stanstead..... | 150,000 |
| Memphremagog Lake, Counties of Brome and Stanstead. | 1,160,000 |
| Orford Lake, Counties of Brome and Sherbrooke..... | 150,000 |
| Ste. Rose..... | 40,000 |
| Total..... | <u>1,600,000</u> |

We did not catch any parent fish to supply the Magog Hatchery with eggs this year. They were all received from Newcastle.

Two millions whitefish and two millions salmon trout eggs were placed in the Magog Hatchery in 1890.

The hatchery will be in good working condition when the supplies are furnished which have been asked for.

The supplies required and applied for are: 1 wood stove, 50 lengths pipe, 6 distributing cans, conductor or pipe for whitefish, with cocks; $\frac{3}{4}$ -in. rubber hose, 12 tins, 6 cords dry hardwood, 8 globe valves; estimated cost about \$70.

From information which I have received from fishermen and others living near the lakes wherein salmon trout and whitefish fry have been deposited, I find that there is an increase in both salmon trout and whitefish, but that the increase of the former is much retarded in some localities by poachers during the spawning season. The few fishery officers employed, and the large area over which they have to watch, has a tendency to make the poachers more bold and the trout less plentiful, other-

wise the increase would be much more apparent. Large schools of small whitefish are now noticed in all the bodies of water wherein the fry have been deposited. These all came from the Magog Hatchery, as no whitefish were ever seen in them before the hatchery commenced operations.

I have the honour to be, Sir,

Your obedient servant,

A. H. MOORE,

Officer in Charge.

11.—NEWCASTLE HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE NEWCASTLE HATCHERY, 1890.

I have the honour herewith to submit my annual report of the operations carried on at the Newcastle fish breeding establishment for the past year.

The work of hatching and distributing the various kinds of fish was most successfully carried out. The fry when planted even at the most remote points from the hatchery, appeared to be quite as lively and strong as when taken out of it.

In February last I received instructions from the Department to transfer from Newcastle to some of the Maritime nurseries a quantity of eyed eggs. As previously reported these eggs reached their destinations, under my personal supervision, in good order. No trouble need be apprehended in the carriage of fish eggs even for long distances if escorted by a careful and experienced officer; but it is quite unsafe to ship these delicate and perishable eggs by express messengers alone. I notice in reading some of the United States reports on fish-breeding that the American nurseries have met with some very serious losses by allowing boxes of carefully packed eggs to be shipped in care of the express messengers on board the trains. These agents, though they may be deeply interested in this industry, have little or no time to devote their close attention to these perishable eggs when sent long distances, even though written instructions may have been sent with the consignment. It is, therefore, always desirable, in fact absolutely necessary to send an experienced officer to take charge of either fish eggs or young fish, when shipped from the hatcheries to their points of destination.

The total number of semi-hatched eggs shipped to the Lower Provinces last winter, and the fry of various kinds liberated from the Newcastle establishment this spring was as follows:—

Semi-hatched Salmon Trout.

| | |
|---|------------------|
| Magog hatchery, Province of Quebec..... | 2,000,000 |
| Bedford do do Nova Scotia..... | 500,000 |
| St. John do do New Brunswick..... | 1,500,000 |
| Ottawa do do Ontario..... | 1,500,000 |
| Total | <u>5,500,000</u> |

White-fish Fry.

| | |
|--------------------------------|------------------|
| Toronto, Lake Ontario..... | 500,000 |
| Cobourg do | 250,000 |
| Newcastle do | 300,000 |
| Colborne do | 100,000 |
| Meaford, Georgian Bay..... | 1,000,000 |
| Belleville, Bay of Quinté..... | 500,000 |
| Lefroy, Lake Simcoe | 100,000 |
| Total..... | <u>2,750,000</u> |

Salmon Trout Fry.

| | |
|----------------------------------|-----------|
| Toronto, Lake Ontario..... | 500,000 |
| Cobourg do | 200,000 |
| Colborne do | 200,000 |
| Kingston do | 400,000 |
| Newcastle do | 250,000 |
| Bowmanville, Lake Ontario..... | 250,000 |
| Marmora, Crow Lake | 100,000 |
| Lakefield, Stony Lake..... | 100,000 |
| Port Carling, Rosseau Lake | 200,000 |
| Belleville, Bay of Quinté | 500,000 |
| Toronto, Howard Lake..... | 25,000 |
| Collingwood, Georgian Bay..... | 500,000 |
| Warton do | 500,000 |
| Meaford do | 500,000 |
| Barrie, Lake Simcoe..... | 200,000 |
| Orillia do | 200,000 |
| do Row's Lake..... | 25,000 |
| Lefroy, Lake Simcoe..... | 50,000 |
| Total..... | 4,700,000 |

Speckled Trout Fry.

| | |
|--|---------|
| R. Croft Hulme, Belleville | 5,000 |
| James Haw, Orillia..... | 4,000 |
| D. Martin, Guelph..... | 5,000 |
| Woodstock Club, Woodstock..... | 20,000 |
| John Barr, Shelborne..... | 5,000 |
| Israel Kinney, Brantford..... | 11,000 |
| Doctor Mallory, Grafton..... | 5,000 |
| Harry Piper, Toronto..... | 5,000 |
| E. R. C. Clarkson, Toronto..... | 10,000 |
| Samuel Dice, Milton..... | 3,000 |
| R. Burgess, Muskoka | 10,000 |
| W. McDonald, Tilsonburg | 10,000 |
| J. Forsythe, Barrie..... | 2,000 |
| W. H. Rittenhouse, Barrie..... | 2,000 |
| J. Gardiner, Paris..... | 5,000 |
| G. P. Buchannan, Paris..... | 10,000 |
| J. T. Brownridge, Paris..... | 1,000 |
| G. Farnham, Hamilton..... | 1,000 |
| J. E. Murphy, Hepworth..... | 5,000 |
| Z. A. Lash, Toronto..... | 50,000 |
| R. Z. Rogers, Grafton | 50,000 |
| E. C. Cochrane, M.P., Toronto..... | 2,000 |
| W. Williamson, Ingersoll..... | 5,000 |
| R. Southam, London..... | 5,000 |
| Number turned out in hatchery stream..... | 45,000 |
| Number kept on hand in spring tank | 5,000 |
| Number semi-hatched eggs sent to Ottawa..... | 75,000 |
| do do St. John Hatchery..... | 15,000 |
| do do Bedford do | 15,000 |
| Total | 391,000 |

Grand Total Fry Hatched.

| | |
|--|------------|
| White-fish..... | 2,750,000 |
| Salmon trout..... | 4,700,000 |
| Speckled trout..... | 391,000 |
| Total..... | 7,841,000 |
| Semi-hatched eggs shipped to other hatcheries in Lower Provinces..... | 5,500,000 |
| Grand total..... | 13,341,000 |

Repairs to Hatchery.

The main tank or trough, which supplies the hatchery trays with water, was very much decayed and unsafe. This was renovated last summer and lined with galvanized iron, making it perfectly secure for years to come.

The outside of the hatchery has not been painted since its first erection, and unless it is attended to next spring the building will become much injured. With the exception of a few other unimportant repairs which can be done with little expense after the fry are liberated the establishment and all its appliances are in first-class condition.

The grounds and fish ponds adjoining the hatchery are kept in good order and are visited by a large number of people during the summer.

Collection of Salmon Trout Eggs.

This undertaking received my personal supervision last fall, and was commenced on the 15th of October and completed the 3rd of December, which will be seen by reference to my daily statement of the work hereto appended.

Some important changes were made last fall in locating the pound nets. The two formerly set on the Indian reserve, at White Cloud and Hay Islands, were not placed there this season. It was found that these nets did not capture as many parent fish as was expected, and as the distance from Wiarton to these nets was about fifteen miles, it was decided to abandon these locations and try the experiment of putting one of these nets close to the old and reliable stand at Gravelly Point, which is only nine miles down the bay from Wiarton. This proved to be a great success, notwithstanding the views put forth that two pound nets would not operate successfully when located close to each other. As many eggs were taken from the fish in these two nets as were collected from three during the previous season. The distance to be travelled by tug was lessened by many miles, and the guardians had much less difficulty in protecting the nets against poachers.

A good deal of trouble was experienced in getting a suitable person to set the pound nets last fall. The expert who managed the work last year promised to undertake the job again, but disappointed me at the very last moment, and after writing to several other persons capable of performing this special work, I was compelled to go to Port Dover and procure the services of Capt. Allan to overcome the pressing difficulty. It was most fortunate that his services were obtained, otherwise the collecting of a supply of salmon trout eggs for the several hatcheries in the Provinces must have proved a failure. The proper setting down of pound nets requires years of experience. In fact there are few men to be found in the country who practically understand this business. I am glad to report, however, that after the several years experience now had at Wiarton in connection with the management of the pound net system, that with another season's work our own employees will be able to manage this difficult undertaking without employing these expensive experts as formerly.

I herewith append a statement of the work at Wiarton which gives the number of salmon trout eggs collected daily last fall, also the number of parent fish mani-

pulated and liberated, together with other valuable information which will serve as a reliable record to the Fisheries Department, especially in refuting erroneous statements which are often made by fishermen and interested fish dealers in reference to the "close season" for salmon trout and whitefish. It will be noticed by looking at the last three yearly statements that the Department had wisely set apart the whole month of November, and I am glad to learn that it is the intention of the Government to lengthen the period. This step is absolutely necessary, as it can be proved beyond doubt that large numbers of salmon trout and whitefish spawn as early in the season as the 15th of October.

Condition of the Eggs in the Hatchery.

The hatchery with its large number of eggs, upwards of eleven millions, is at present very much crowded, and as it will be utterly impossible to hatch out more than half this quantity safely next spring, it will be necessary to remove at the proper time, say six millions, to the Ottawa and other establishments in the Eastern Provinces.

I have the honour to be, Sir,

Your obedient servant.

C. WILMOT,

Officer in Charge of Newcastle Hatchery.

STATEMENT showing the daily operations of collecting Salmon Trout Eggs at Wiarton during the Season of 1890.

| Date of Lifting Nets. | No. of Nets Lifted. | No. of Fish from which Spawn was collected and liberated. | | No. of Fish Spawned out before entering Nets and liberated. | No. of Fish found injured or dead in Nets. | | No. of Eggs collected. | Remarks. |
|-----------------------|---------------------|---|----------|---|--|---------------|------------------------|---|
| | | Males. | Females. | | Whitefish. | Salmon Trout. | | |
| Oct. 15. | | | | | | | | J. Kemfick and I arrived at Wiarton. |
| do 16. | | | | | | | | Capt. J. S. Allan arrived at Wiarton. |
| do 17. | | | | | | | | Commenced getting nets ready. |
| do 18. | | | | | | | | Put stakes on spile driver and drove a few. |
| do 19. | | | | | | | | Too rough to work at driving stakes. |
| do 20. | | | | | | | | Drove stakes for pound nets. |
| do 21. | | | | | | | | Finished driving stakes for one net. |
| do 22. | | | | | | | | No. 1 net completed and set. |
| do 23. | | | | | | | | Sunday. Rough and blowing. |
| do 24. | | | | | | | | Set 11 stakes for No. 2 net. |
| do 25. | | | | | | | | Too rough to drive stakes. |
| do 26. | | | | | | | | Finished driving stakes for No. 2 net. |
| do 27. | | | | | | | | Rough weather, could not work. |
| do 28. | | | | | | | | No. 2 net completed and set. |
| do 29. | 1 | 83 | 170 | 7 | 4 | 11 | 600,000 | Early run of fish; wind east; fine warm weather. |
| do 30. | | | | | | | | Snow fell one inch; cold weather. |
| do 31. | 2 | 52 | 140 | 15 | 6 | 15 | 600,000 | Snowing; fish scarce; weather cold. |
| Nov. 1. | | | | | | | | Too rough to lift nets; raining and blowing. |
| do 2. | | | | | | | | Fish not ripe in nets. |
| do 3. | 2 | 70 | 210 | 12 | 2 | 10 | 700,000 | Fish very scarce; fine weather; $4\frac{1}{2}$ inches snow fell to-day. |
| do 4. | | | | | | | | Fish in nets not ripe. |
| do 5. | | | | | | | | Windsouth-west; could not lift; blowing a gale. |
| do 6. | | | | | | | | Very heavy sea running; wind northeast. |
| do 7. | 2 | 210 | 454 | 87 | 5 | 27 | 1,500,000 | Wind southwest; raining and freezing; a new run of fish in nets, but many of them not ripe. |

STATEMENT showing the daily operations, &c., at Wiarton—*Concluded.*

| Date of Lifting Nets. | No. of Nets Lifted. | No. of Fish from which Spawn was collected and liberated. | | No. of Fish Spawned out before entering Nets and liberated. | No. of Fish found injured or dead in Nets. | | No. of Eggs collected. | Remarks. |
|-----------------------|---------------------|---|----------|---|--|---------------|------------------------|---|
| | | Males. | Females. | | Whitefish. | Salmon Trout. | | |
| Nov. 8. | | | | | | | | Fish in nets not ripe. |
| do 9. | | | | | | | | Sunday; fine weather. |
| do 10. | 2 | 221 | 469 | 60 | 9 | 22 | 1,650,000 | Fine warm day; wind east; fish spawning freely. |
| do 11. | | | | | | | | Had to take spile driver down and set stake which got out of place. |
| do 12. | 1 | 175 | 297 | 49 | 1 | 14 | 1,000,000 | Too rough in afternoon to lift No. 2 net; male fish more plentiful. |
| do 13. | 1 | 70 | 152 | 37 | 4 | 12 | 550,000 | Wind south-west; guardians report no poaching going on. |
| do 14. | 1 | 110 | 287 | 54 | 2 | 29 | 1,100,000 | Fine warm weather; no new run of fish coming on. |
| do 15. | | | | | | | | Fish in nets not ripe; not nearly as many fish in nets as at this date last year. |
| do 16. | | | | | | | | Sunday; cold and blowing. |
| do 17. | 2 | 157 | 360 | 62 | 5 | 37 | 1,400,000 | Raining all day; wind north-east. |
| do 18. | 1 | 40 | 70 | 43 | 1 | 9 | 200,000 | Lifted nets but fish very scarce and not ripe. |
| do 19. | | | | | | | | Unless a new run of fish enter nets we will not get many more eggs. |
| do 20. | 2 | 129 | 342 | 98 | 7 | 31 | 1,150,000 | Some fresh run fish in nets; very cold and rough. |
| do 21. | | | | | | | | Did not lift; fish not ready for spawning. |
| do 22. | 2 | 79 | 271 | 114 | 4 | 29 | 675,000 | Run of fish about over; snowing and blowing and freezing hard. |
| do 23. | | | | | | | | Sunday; cold and rough. |
| do 24. | | | | | | | | Blowing hard; heavy sea. |
| do 25. | | | | | | | | Would have taken out net but too rough. |
| do 26. | | | | | | | | Weather has considerably moderated; took out one net to-day. |
| do 27. | | | | | | | | Blowing and freezing; have net up for winter. |
| do 28. | | | | | | | | Took out No. 2 net and stowed away ropes, &c. |
| do 29. | | | | | | | | I came home and left Kemick to take scow and spile driver to moorings. |
| do 30. | | | | | | | | Sunday. |
| | | 1,396 | 3,222 | 638 | 50 | 246 | 11,125,000 | |

We had not more than half as many fish in nets as last year. Under these circumstances we should feel that the work was a great success.

C. WILMOT.

12.—SANDWICH HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE SANDWICH FISH HATCHERY.

I herewith forward the annual report of the work performed at the Sandwich Fish Hatchery for the past year.

From the eggs placed in the hatchery last year there were hatched 45,000,000 young fish. This was somewhat under the regular percentage, and may need a little explanation. We gathered more eggs than we had incubators or room for, at the time, and in order to accommodate these eggs we were put to the last resort of using the old wire trays that were in use years ago, when the culture of whitefish was first begun. The numbers hatched in the glass jars were fully up to the usual standard, and the falling off on the general percentage can only be laid to those

hatched in the wire trays. Taking this into consideration we can feel quite satisfied with the number of young fish that were hatched. These young fish were placed in the following waters:—

| | |
|---|-------------------------|
| Newcastle (eyed eggs)..... | 3,000,000 |
| Ottawa, Ont. do | 6,000,000 |
| Magog, Que. do | 2,000,000 |
| Bedford, N.S. do | 2,000,000 |
| St. John's, N.B. do | 2,000,000 |
| Point Edward, Lake Huron..... | Young fish... 2,000,000 |
| River St. Clair, at Port Lambton..... | do ... 1,000,000 |
| Lake St. Clair, at Mitchel's Bay..... | do ... 2,000,000 |
| Peach Island, Lake St. Clair..... | do ... 2,000,000 |
| Fighting Island, Detroit River..... | do ... 1,000,000 |
| Stony Island do | do ... 2,000,000 |
| Bois Blanc Island do | do ... 2,000,000 |
| Pigeon Bay, Lake Erie..... | do ... 2,000,000 |
| Bar Point do | do ... 2,000,000 |
| Kingsville do | do .. 1,000,000 |
| Colchester do | do ... 1,000,000 |
| Port Stanley do | do ... 1,000,000 |
| In Lake Erie, below Bois Blanc Island.... | do ... 3,000,000 |
| Niagara, Lake Ontario..... | do ... 1,000,000 |
| Hamilton do | do ... 1,000,000 |
| Toronto do | do ... 1,000,000 |
| In river at hatchery. | do ... 5,000,000 |

Making the total of..... 45,000,000

These young fish were in fine condition when placed in the above named waters.

Collecting Pickerel Eggs.

After having cleared the house of the young whitefish, preparations were made for the reception of the pickerel (doré) eggs. Below are given the numbers collected, and the names of the places where secured:—

| | |
|--------------------------------------|------------|
| Wees Bros., Lake Huron..... | 8,000,000 |
| Joseph Leazeau do | 8,000,000 |
| Hitchcock & Stead, Point Edward..... | 16,000,000 |

Making the total secured..... 32,000,000

From these eggs were hatched out 22,000,000 young pickerel, which were placed in the following waters:—

| | |
|-------------------------------------|------------------|
| Ottawa (eyed eggs)..... | 1,000,000 |
| Point Edward, Lake Huron..... | Fry... 2,000,000 |
| Port Lambton, River St. Clair..... | do ... 1,000,000 |
| Mitchel's Bay, Lake St. Clair..... | do ... 1,000,000 |
| Peach Island do | do ... 2,000,000 |
| Fighting Island, Detroit River..... | do ... 2,000,000 |
| Bois Blanc Island do | do ... 2,000,000 |
| Pigeon Bay, Lake Erie..... | do ... 3,000,000 |
| Bar Point do | do ... 2,000,000 |
| In river at hatchery..... | do ... 6,000,000 |

Making the total..... 22,000,000

I can here state that the different fishermen report to me the catch of pickerel was above the average last spring, and, as usual, give great praise to the hatchery for the cause of the increase in these fish.

I have just received certain nets from the Department for the purpose of securing our own fish, but as yet have not decided on a location where to place them. Several places have been recommended to me, but until some satisfactory place is located I would not advise the giving up of the present mode of securing parent fish until the new venture had proved successful.

Collecting Whitefish Ova.

The fall of 1890 can be recorded as having the greatest number of whitefish eggs laid down since this hatchery was first organized, there being fully ninety millions of eggs put in the incubators. These eggs were taken from fish caught at the following places :—

| | |
|--------------------------------|------------|
| Bois Blanc fishery..... | 30,000,000 |
| Fighting Island fisheries..... | 45,000,000 |
| Mainland fisheries..... | 15,000,000 |
| | <hr/> |
| | 90,000,000 |

The Catch of Whitefish.

From all around this section of the country comes the report of increase in the catch of whitefish. The fishermen are jubilant, and expect greater results from the artificial hatching in years to come, from the fact that the catch continues to improve from year to year, and from the size of the fish caught it is contended that they are largely the production of artificial breeding. For instance, take the Bois Blanc fishery's catch this fall. Here there were hauled in over 1,000 small fish which were put into the racks for spawning purposes, nearly all escaped through the openings which were made suitable to keep in the ordinary sized fish. The fishermen claim that these small fish were, without any doubt, the production of the hatcheries. The same statement of the catch of small fish comes in from every fishing ground hereabouts. This catch at Bois Blanc Island fishery is a very strange one, but is a very strong argument in favour of the hatcheries, as the fish formerly taken at this fishery were noted as being the largest of any caught in the river.

The Herring Fishing.

Although we have never done anything with the cultivation of the herring, yet, I believe, it will be advisable to do so, as that fish seems to be fast decreasing in these waters. The catch this year is a long ways below that of any former year, and the fishermen are beginning to ask if we are not going to breed them in the hatchery in like manner as the whitefish. I would recommend the Department to engage in the cultivation of the herring.

Improvements in the Hatchery.

Since last year several improvements have been made in this house. The entire floor is now devoted to the hatching of fish, and instead of running 350 glass jars as formerly we now operate 600, and will be able to turn out about double the number of young fish. In the centre of the floor a large tank is built, in which there were placed 100 adult whitefish, which gave quite a quantity of eggs. I think the idea of bringing the fish, which we are unable to spawn at the fishing stations, and putting them in this tank, is a good one, and one which will in after years prove of great benefit to the hatchery, as we will then secure quite a number of eggs that otherwise could not be had. In speaking of the improvements that have been made it might be well to speak of another which is needed—that of securing and controlling a steam yacht for the purpose of putting out the young fish at our convenience.

Last season, on account of no steamer running to Pelée Island, it was impossible to place any fish at that place without heavy expense, which I did not incur. With a small yacht fry could be distributed readily and cheaply at this and other important points. This boat would not only be useful for the distribution of young fish, but also for the collecting of eggs, and would save the Department much expense now incurred and at the same time advance this hatchery. The cost of such a boat would be in the neighbourhood of \$500 or \$600.

There should also be a movable breakwater built at Bois Blanc fishery to prevent the water dashing the fish against the racks when storms prevail, which they frequently do at this point. The cost of this would be \$100, and would save the fish from being bruised, which materially injures the egg within them.

The only other improvement that I know of now for this establishment is the painting of the hatchery, the cost of which will amount to about \$200.

In closing this report I desire to say something about the decrease of the sturgeon. As this has become a very valuable fish, I would recommend that efforts be made to secure some of their ova and propagate them in the same way as we do other fish.

I desire also to state that all the improvements ordered by your Superintendent of Fish Culture, Mr. Wilmot, is working admirably.

I have the honour to be, Sir,

Your obedient servant,

WILLIAM PARKER,

Officer in Charge.

13.—OTTAWA HATCHERY.

PROVINCE OF ONTARIO.

REPORT OF THE OFFICER IN CHARGE OF THE OTTAWA HATCHERY, 1890.

Herewith is submitted the first annual report of the working of this hatchery. The ova received from the different hatcheries were as follows:—

| | |
|--|-----------|
| Salmon ova from British Columbia | 150,000 |
| do Restigouche Hatchery, Prov. Quebec. | 25,000 |
| Salmon trout ova from Newcastle Hatchery, Ontario... | 1,500,000 |
| Speckled trout ova from do do | 75,000 |
| Whitefish ova from Sandwich Hatchery, Ontario..... | 6,000,000 |

The young fry were distributed from this hatchery last spring in excellent condition, considering the long journeys and rough roads to their destination. They were planted in the waters at the following places:—

Salmon fry.

| | |
|-------------------------------------|----------------|
| Meache's Lake, Province Quebec..... | 84,000 |
| Knowlton do do | 14,000 |
| Smallions do do | 14,000 |
| Total | <u>112,000</u> |

Salmon Trout fry.

| | |
|------------------------------------|---------|
| Meaches Lake, Province Quebec..... | 20,000 |
| Moseau do do | 30,000 |
| Rideau do Province Ontario | 200,000 |
| Duchesne do do | 60,000 |
| Bernard's do Province Quebec..... | 21,000 |
| Duchesne do do | 200,000 |

| | |
|---|------------------|
| Lancaster, River St. Lawrence..... | 80,000 |
| Summerstown do | 80,000 |
| Rideau Lake, Province Ontario | 60,000 |
| Lower Rideau Lake, Prov. Ontario..... | 60,000 |
| Bernard's do do Quebec | 90,000 |
| Clidcotts do do do | 60,000 |
| Crutch and Antonine Lakes, Province of Quebec. | 40,000 |
| Seybold and Gibson do do do | 20,000 |
| McKenzie Park Lake, Province of Ontario.. .. | 20,000 |
| Total..... | 1,051,000 |

Speckled Trout-fry.

| | |
|--|---------------|
| Trout Lake, Province of Quebec..... | 15,000 |
| Graham's Lake, Province of Quebec..... | 15,000 |
| Green do do do | 25,000 |
| Bernard's do do do | 15,000 |
| Total..... | 70,000 |

Whitefish Fry.

| | |
|---|------------------|
| Charleston Lake, Province of Ontario..... | 600,000 |
| Little do do do | 150,000 |
| Bass do do do | 150,000 |
| Delta do do do | 600,000 |
| Singleton do do do | 150,000 |
| Greppin do do do | 150,000 |
| Rideau do do do | 600,000 |
| Mud do do do | 600,000 |
| Duchesne do do Quebec | 150,000 |
| Seybold and Gibson Lake, Province of Quebec | 150,000 |
| Meache's Lake, Province of Quebec..... | 225,000 |
| Mississippi Lake, Province of Ontario..... | 225,000 |
| Stoney do do do | 450,000 |
| Ireland's do do Quebec.. .. | 225,000 |
| Clark's do do do | 75,000 |
| Total..... | 4,500,000 |

Remarks.

All the fry were planted in the different waters in good condition, with the one exception of some Fraser River salmon fry which were shipped by express to Brome Lake in the Eastern Townships, and to avoid any such loss in the future it will be found absolutely necessary that the officer in charge or some other competent person shall accompany the fry to the different waters in which they are to be planted.

The hatchery being newly constructed, considerable difficulty was experienced by not having sufficient accommodation for them at the proper time, many white-fish and salmon trout were hatched out before the tanks were built outside to receive them. It will be found necessary to have two more rows of tanks put up next spring to accommodate the young fish and prevent over-crowding in the troughs inside. The hatchery and the frames for the outside will require painting the coming summer, and there will also be required some carpenter's work for putting up additional stands for the tanks in the yard.

I have the honour to be, Sir,

Your obedient servant,

PHILIP VEALE, *Officer in charge.*

ANNEX TO FISH BREEDING REPORT.

REPORT.

WHITEFISH FOR LAKE ONTARIO.

CORRESPONDENCE RELATIVE TO STOCKING LAKE ONTARIO WITH WHITEFISH.

ROCHESTER, N. Y., 14th January, 1891.

SAM. WILMOT, Esq.,
Ottawa.

DEAR SIR,—Please read the enclosed slips and tell me fully what your answer is to the accusation against your people.

An early answer will oblige.

Yours truly,
F. J. AMSDEN.

MEETING OF THE NEW YORK STATE FISH COMMISSIONERS.

(“*Evening Post*,” 14th January, 1891.)

A meeting of the State Commissioners of Fisheries was held to-day in the market and Fulton Bank building, at Gold and Fulton streets. Applications for twenty oyster franchises were granted, and a long list of arrests and fines by the state game protectors was read. The reports from the various state Superintendents of fisheries for the coming season were encouraging.

A letter was read from F. J. Amsden, of Rochester, asking for the co-operation of the commission in bringing about concerted action on the part of the United States and Canada for the propagation of the whitefish in Lake Ontario and elsewhere. It was said there was a necessity for such action, and that more attention should be paid to the more common varieties of food fish. However, no united action could be taken with the Canadian Government, nor could uniform laws be passed on both sides of the lakes as long as the Canadians permit net-fishing. Most of the whitefish had now been taken from waters off the Canadian shores. It was useless to stock the lakes until netting was stopped. At the present time, not only were the large whitefish being taken, but thousands of the small whitefish were caught and sold in this city and elsewhere as herrings.

CORRESPONDENCE REGARDING PRESERVATION OF WHITEFISH IN LAKE ONTARIO.

Mr. Edward F. Doyle,

Secretary Commissioners of Fisheries, New York.

DEAR SIR,—I am in receipt of your favour of the 14th instant, informing me of the action of the Commissioners of Fisheries in respect to stocking Lake Ontario with whitefish, siacces and wall-eyed pike, and conveying the assurance that the Commission is in sympathy with myself and associates in the effort we are making to increase the supply of fresh-water food fish, available to the residents of States adjoining the Great Lakes.

The purpose of the association with which I am identified is entirely of a public nature, and its design is to render a wholesome article of food so abundant and accessible to the communities residing in States bordering the Great Lakes that any one can, for a small sum of money, have on his table, every day in the week, during the season, a supply of those fish which are universally regarded as highly desirable food.

The assurance that the Commissioners of Fisheries of the Empire State will co-operate with us in our endeavours is exceedingly gratifying, and cannot fail to be of the utmost importance in all future efforts that are to be put forth.

From the experience which I have acquired since becoming interested in this subject, aided by my correspondence with others, at home and abroad, who have also given much consideration to the project, I am convinced that the task before us will not prove to be an easy one to accomplish, but will call for persistent and concentrated efforts by all who take the matter to heart. The public voice will no doubt be with us, but we may reasonably expect to meet with opposition, either direct or indirect, from certain interests that can always be depended on to oppose any public measure adverse to their own short-sighted and selfish policy. The fishermen who persist in using nets of such small mesh that they catch fish of not more than half a pound weight are pretty sure to be heard from in a united wail when an attempt shall be made, in the public interest, to compel them to abandon their foolish practice of taking the immature fish and thus depleting the waters, which, if fished in a rational way, would continue forever to supply the growing population with a generous amount of full-grown fish.

The importance of the subject suggests that it may be necessary to enlist international interests in the cause, or, if not international, at least interstate. It would be obviously futile for the State of New York

to expend money and effort in stocking the waters of Lakes Ontario and Erie with food-fish unless concurrent action toward its reasonable protection should be taken by Pennsylvania, Ohio and the Province of Ontario. There are no bounds between the waters of the various States named that would prevent the fish planted by New York from going to other shores, where they might be caught out of season or by the use of nets, which would not be tolerated by the State which had them hatched. It is self-evident that those States, including the Dominion, which are so fortunate as to be bounded by the Great Lakes, must unite in a determination to stock their waters, and, when they are stocked, to give them such thorough protection that no one but an outlaw will think of violating the regulations prescribed by reason and experience for the protection of the fish. Anything short of this would, in my judgment, be but little better than a waste of time and money.

I therefore respectfully submit to the Commission that, as it has the advantage of being a lawfully appointed and influential body, representing the Empire State, it could with grace invite representative organizations from other States interested to take up the subject in a common spirit and obtain such legislation from the respective States as will give assurance that when the minor work of depositing millions of fry in the waters of a lake has been done the more important and difficult task of protecting the stock until it is mature shall be carried out with fidelity by the united power of all the States that border on the waters.

In your communication of the 14th I note with interest the fact that the Commission intends to liberate 4,000,000 siscos in Lake Ontario next spring. It may be presumptuous in a private citizen to offer suggestions to a body of experts, but it has occurred to me that, as the siscoe is at best but an indifferent fish, and when mature is not as large as a whitefish or pike should be before it is fit to be caught, the presence in the lake of so many siscos would offer a temptation for unscrupulous persons to set nets, ostensibly for siscos, which would take innumerable young whitefish, lake trout and pike, that would otherwise remain in the water until large enough to be caught in the net of legitimate size mesh, which should alone be allowed in the water where the better fish are to be cultivated. If the purpose of putting out the siscos be to furnish food for the pike, then the objection would not prevail. But it would seem that such a large number of siscos would necessarily consume food that might better be reserved for the more valuable whitefish.

Respectfully yours,

FRANK J. AMSDEN.

OTTAWA, 17th January, 1891.

F. J. AMSDEN,
Rochester, N. Y.

Your note enclosing paper cutting to hand. I notice its contents. I am very much surprised at the want of knowledge shown therein regarding the whitefish question, when it is stated: "It will be useless to stock the lakes until netting is stopped."

It will be a nice question to solve, how whitefish are to be taken for commercial purposes unless with nets, as they cannot be taken in any other way. Whilst the taking of the whitefish in nets cannot be avoided, and should not be prevented, yet, with proper laws and regulations regarding the times and modes of applying them, the great whitefish industries of the country would, at the present day, have been largely upheld—in fact, had our American cousins shown the same anxiety and the same amount of wisdom for protecting the whitefish and other fisheries in Lake Ontario and many other waters on their sides of the line, they would not now present the lamentable state that exists at the present day, and of which complaint is made "that the Canadian Government has been instrumental in bringing about." Why so forgetful of the fact that Canada has on her statute books laws to protect whitefish at the spawning time, and regulations regarding the mesh of nets to catch them, during the past thirty years and more, whilst the United States or the State of New York has not now and never had any laws and regulations for protection of this valuable fish, but has allowed indiscriminate slaughter throughout at the spawning time, and at all times, with every description of engine that the ingenuity and cupidity of the American fisherman could invent to kill and destroy fish with.

Not only has the absence of a law for protecting whitefish in American waters seriously injured—in fact, almost wholly depleted them—but it has also given trouble and difficulty without end in the enforcement of the Canadian fishery laws, its inhabitants complaining that they (the Canadian fishermen) were restricted from taking fish at the close time, when on the American side, where, in some cases, only an indefinite international line exists, the latter are allowed to fish how, when and where they chose. In some cases, where a narrow boundary existed like the Detroit River, by such proceedings and subterfuges of all kinds the Fisheries Department of Canada had to give way and allow infringement upon its well-intentioned legislation to protect their fisheries. Did not the Fisheries Department of Canada erect the first governmental whitefish hatchery on this continent, or even in the world? And have not many of the States of the Union followed most wisely and liberally in this praiseworthy undertaking to replenish their waters with whitefish. I regret to say that not only did the Federal Government but many of the State Commissions advance the fallacious idea that as the artificial breeding of fish had been entered upon, and had proved so successful, it was useless to restrict the fishermen from keeping any close season, and that the supplies of fish would be upheld by this artificial process. What a fallacy to put forth, that artificial breeding would take the place of natural breeding. No wise or favourable advocate of artificial culture of fish should put forth such a statement, for in the minds of the more intelligent classes such a theory must injure rather than benefit the actual or anticipated results from artificial fish culture. Strong advocate as I am, and as one of the pioneers of the work, I have never advocated but one view, namely, that artificial breeding must only be considered as a great adjunct and supplementary aid to the natural process. The natural and artificial means, combined with judicious laws as to the close seasons and regulations regarding nets, etc., would maintain the fisheries for all time to come. Artificial propagation alone, without the other methods being wisely applied, will never effect the desired end of replenishing or maintaining the fish supplies in the waters of any country.

Let such of your people as may be desirous of intelligently husbanding, and improving the whitefish wealth of their country, and especially of Lake Ontario, which is referred to, adopt similar laws and regulations to those in Canada (which may yet be largely improved upon) for enforcing a "close season" in which these fish reproduce their species, unmolested by the American fishermen; regulate the nets as to length, size of mesh, etc., so that the young and immature fish shall not be taken; supplement this by an extensive system of artificial propagation; adhere to this system for years, and every year; eschew the iniquitous clap-trap of greedy fishermen and party politicians, whose only desire is to kill and destroy for the present, caring nothing for the future, and I doubt not the fish wealth which Providence had so bountifully supplied the waters with for the use of mankind may again be largely replenished. Otherwise, but a few more years of the present reckless system of fishing must inevitably bring about such a depletion in Lake Ontario and elsewhere, of the whitefish and other fishing industries, as to make them counted as things of the past.

Let your Commissioners condescend to ask the co-operation of the Canadian authorities for the preservation of the fisheries in Lake Ontario or elsewhere, and I doubt, not but that it would be received courteously and acted upon with that mutual spirit which should prevail between people, though of different nationalities, for the preservation and improvement of a source of wealth which so largely abounded in the dividing waters between them, but which now, for the want of proper care, is fast passing away.

Yours very truly,
SAMUEL WILMOT.

UNITED STATES SALMON AND WHITEFISH HATCHING STATION ON LAKE ONTARIO, N.Y.

Following is a report in Congress upon the Bill for the erection of the hatchery, and accompanying it is a letter from the United States Fish Commissioner. This will prove one of the most important stations of the Commission:—

Mr. Farquhar, from the Committee on Merchant Marine and Fisheries, submitted the following report:—

The Committee on Merchant Marine and Fisheries, to whom was referred the Bill (H. R. 13350) for the establishment of a fish hatchery in the State of New York, near the St. Lawrence River, respectfully report said Bill back to the House, with a proviso thereto as follows:—

Provided, That the Commissioner of Fisheries shall first be satisfied that the State of New York has taken efficient measures for the regulation of periods for fishing and for proper protection of fish in the spawning season in the waters of northern New York.

And that when so amended your Committee recommend the passage of said Bill.

The accompanying letter from the United States Commissioner of Fisheries, communicated to the Senate, gives sufficient reasons for the establishment of the fish hatchery proposed to be established by the Bill, and the same is made a part of this report:—

U. S. COMMISSION OF FISH AND FISHERIES,
WASHINGTON, D. C., 26th January, 1891.

SIR,—In obedience to Senate resolution of 18th December, 1890, directing the United States Commissioner of Fish and Fisheries to report to the Senate as to the desirability of the establishment of a fish hatchery in northern New York, near the St. Lawrence River, I have the honour to report as follows:—

The basin of the St. Lawrence, including Lake Ontario and Lake Champlain and the innumerable smaller lakes and tributary streams which drain into these, comprises fully one-half of the area of the State of New York, about one-fourth of the State of Vermont, and on the Canadian side a more considerable drainage area.

In Lake Ontario whitefish were formerly very abundant. The value of this fishery has declined year by year, and at present the production is relatively insignificant compared with the whitefish fisheries of Lake Erie, Lake Huron and Lake Michigan.

In the waters referred to a like decline was in progress, but those who were interested in those fisheries were prompt to recognize the necessity of legislation to restrain and regulate the methods, and apparatus, and seasons of capture.

Artificial propagation was also systematically resorted to, to supplement and reinforce natural reproduction, and whitefish hatcheries were established by the States of Michigan, Ohio and Wisconsin, and by the Canadian Government. Entering the field at a later date, the United States Commission has established stations for the collection and hatching of whitefish at Alpena, Mich.; Duluth, Minn.; and Put-in-Bay, Ohio.

The result of this co-operative fish culture work by the Canadian, State, and United States Fish Commissioners has been not only to arrest the alarming decline that was in progress, but to determine a marked increase in the catch of whitefish in those waters in which fish-cultural work has been carried on.

The marked contrast between the present conditions of the whitefish fisheries of Lake Erie and Lake Ontario sharply defines and emphasizes the necessity of artificial propagation as a means of maintaining and improving our important commercial fisheries, and of creating such in waters where they have not before existed.

We can not afford to neglect so important an economic resource, one which gives such substantial and valuable returns for moderate expenditures.

We can not expect individual enterprise to undertake such work in public waters in the expectation of private gain. Men, however public-spirited, will not sow the seed of a harvest which all men may gather. Our lakes and rivers and coast waters must be farmed by the Government for the general use, and under such regulations as will establish and maintain the largest production.

Another important commercial species which formerly existed in Lake Ontario in marvellous abundance, but which is now so rare as to be an object of curious interest when seen, is the Atlantic salmon. Sixty years ago, each season it ascended the St. Lawrence in vast numbers, and swarmed in all its tribu-

taries. Following both shores of Lake Ontario, it ascended all the smaller streams which fall into it and which afford suitable spawning grounds for the mature fish and favourable nurseries for the fry during their period of river life.

The following extract from the annual report of the Department of Marine and Fisheries of Canada, for the year ending 30th June, 1889, will be instructive as well as suggestive:—

"Special Report of Inspectors Whitcher and Vinning, on Fish-Breeding at Newcastle, Ontario."

"We proceeded yesterday to Newcastle, Ontario, in compliance with your directions, and made a personal inspection of the fish-breeding establishment there, under charge of Mr. Wilmot. The premises are situated on Baldwin's or Wilmot's Creek, a small stream traversing the township of Clarke, in the County of Durham, and discharging into Lake Ontario, about forty miles east of Toronto. This creek is well situated for salmon, as it forms a natural inlet of the sheltered bend of the lake between Bendhead and Darlington. Although at its entrance into the lake it passes through a marshy lagoon, the bed of the stream farther inland is of a gravelly nature and the water is pretty clear, regular, and lively in its flow. In early times it was famous for salmon, great numbers of which frequented it every autumn for the purpose of spawning. They were so plentiful forty years ago that men killed them with clubs and pitchforks, women seined them with flannel petticoats, and settlers bought and paid for farms and built houses from the sale of salmon. Later they were taken by nets and spears, over 1,000 being often caught in the course of one night. Concurrently with such annual slaughter, manufactories and farming along the banks had obstructed, fouled and changed the creek from its natural state, and made it less capable of affording shelter and spawning grounds. Their yearly decreasing numbers at length succumbed to the destruction practised upon them each season from the time of entering the creek, until nearly the last straggler had been speared, netted or killed."

The history of the salmon fishery of Wilmot's Creek, so graphically told by the Canadian commissioners, has been repeated in every stream of the State of New York which drains into Lake Ontario and the St. Lawrence River. All were frequented by the salmon, and from each, each season, went out a numerous colony of parr and smolts, which descended the St. Lawrence to the Gulf, where they remained until they had attained size and maturity, when, obeying the impulse of reproduction, they ascended the St. Lawrence and distributed themselves to all the tributaries of lake and river, carrying back to these inland waters the rich harvest of the sea which they had garnered.

This magnificent fishery has ceased to be. Did it exist to-day, and were the conditions which made such a fishery possible prevailing to-day, a hundred streams now barren would afford salmon fishing as attractive as the more favoured waters of Canada, and the catch by net in the lake itself would furnish the motive of a valuable commercial fishery.

The cause of the disappearance, practically, of salmon from the streams of the St. Lawrence Basin, has been chiefly and primarily the erection of obstructions in all of the rivers, which have prevented the salmon from reaching their spawning grounds, and so natural reproduction has been absolutely inhibited.

The restoration and maintenance of the whitefish fisheries of Lake Erie, or of the salmon fishery of the lake and rivers, would either of them furnish sufficient motive for liberal expenditure on the part of the Government, if we consider the matter from a purely practical and economic standpoint. It is not only possible, it is entirely practicable, to restore and maintain these fisheries, by adequate recourse to means and agencies entirely within our control.

The regeneration of the fisheries must be accomplished through fish cultural work, systematically and persistently pursued. Their maintenance must be assured by concurrent regulation of the lake fisheries by the United States and Canada, and by the enforcement on the part of the State of New York of such regulations and requirements as will permit the salmon to ascend to their spawning grounds. In the absence of such regulations and requirements it will not be reasonable to expect that the results of fish cultural work will be permanent or compensating, however extensive such work may be.

A fish cultural station, planned to meet all the requirements, must be very extensive and complete in all its appointments, and will involve larger expenditure than would be required for a station devoted exclusively to the production of whitefish or the salmonidæ. The hatchery must be commodious, providing at once for the hatching of 100,000,000 of whitefish and for the incubation of 1,000,000 salmon ova. It must also provide trough accommodation for holding 1,000,000 salmon fry for some weeks after they begin feeding. Quarters, offices, storage rooms and shops must be erected; an extensive system of ponds for rearing the salmon must be constructed, for none would be released in open waters until they were of sufficient size to have comparative immunity from capture by other fish.

At the first installation of the station, and for several years, it would be necessary to draw our supplies of whitefish ova from our collecting stations on the upper lakes, and our salmon ova from Maine. With the improvement of the fisheries, we should expect to find our eventual source of supply in Ontario waters, and the location of the station should be with reference to this. Wherever placed, it should be convenient to transportation routes, and should control a gravity water-supply which should be without stint or measure.

The cost of such a station as I have indicated, complete in all its appointments, would not be less than \$20,000, exclusive of cost of site and water franchises, and for its maintenance there would be required an appropriation of \$9,000 per annum.

Respectfully,

HON. LEVI P. MORTON,
Vice-President.

MARSHALL McDONALD,
U. S. Commissioner of Fisheries.

RESULTS OF FISHCULTURE.

(*"Forest and Stream," 1st January, 1891.*)

It is probable that to those of the readers of *Forest and Stream* who are not particularly interested in fish culture, and are therefore not acquainted with the facts, the statements of Mr. Milton Peirce, which have recently been made concerning the present aspects of trout culture, will appear to be quite frank and plausible. Therefore, in view of the attitude he holds toward present methods of fishculture in general a little further dissection of them, as evidence of his competency as a critic, may be advisable. And first,

what does he offer to sustain his statements? Simmered down, it might be formulated into the following declaration, viz.: "I, Milton P. Peirce, an eminent authority on fish culture on my own showing, say that is so, and therefore it is so." Mr. Peirce's egotism is apparently unconscious, to do him justice. The gist of the controversy between Mr. Peirce and myself is well set forth in the following from the *American Angler* of 4th October:

"A MAD FISH CULTURIST.—We print the annexed communication in full at the request of Mr. Peirce, whose main trouble seems to be restlessness under opposite opinions to his own. His dictatorial style is offensive, and discussion of any subject with him appears to lead to personalities that are always avoided and condemned when gentlemen exchange views on public questions. Our editorial, 'A Mad Fish Cultivist,' published some weeks ago, was suggested solely by the humorous element contained in two public assertions by Mr. Peirce, that Byers (an old veteran) was a callow youth, and that he (Peirce) 'knew it all.' We had no special design to belittle Mr. Peirce's abilities or ridicule his pretensions, and cheerfully accede to his somewhat modest request that we should allow him to blackguard us in our own columns.—Ed."

I very respectfully decline to accept controversy upon Mr. Peirce's terms. Trout culture is not being abandoned, but is keeping step with other branches of fish culture, and needs no very urgent defence. Mr. Peirce states that trout culture has been discontinued in France. Now the papers by C. Raveret-Wattel, F. Muntadas and Frank H. Mason, Consul at Marseilles, in the Bulletin of the United States Fish Commission for 1887, are direct evidence to the contrary. Mr. Peirce's observation appears to be of the period when very young fry were deposited as food for the cottoids which inhabit trout brooks, instead of the past four or five years, during which the output has been yearlings, which are not only able at once to defend themselves against their enemies, but also to devour the smaller of them, and which policy is producing such marked results in this country and in Europe.

Mr. Peirce is willing to admit that if his methods are followed there is still some hope for fish culture. (This appears to be the main trouble with him). In trout culture it consists in increasing the meanderings of the streams. Even if there were anything in this, those who are at all familiar with trout streams are aware that they will insist upon laying out their own courses.

There is a vague hint of some experiment in shad culture by "Peirce's methods" now being made. This is certainly interesting news, and the result will be awaited with great expectations. But let us take up the shad and whitefish culture as tests of Mr. Peirce's fairness and reliability as an observer, since these are commercial fisheries, the statistics of which are regularly and accurately collected, and cannot be controverted by vague and unsupported assertions. Any reasonable person would be convinced by their growing abundance and cheapness that there is a constant increase in the numbers of shad. In spite of the fact that by reason of the wonderful improvements in methods of refrigeration, by means of which they are not only able to be shipped to any distance, but are kept in fresh condition for any length of time, and also notwithstanding the rapidly increasing population, fine roe-shad were sold in the cities of the Atlantic coast States during the spring of 1890 for 25 cents each. Further, so great was the glut that for the first time in twenty-five years the salting of shad was begun on a commercial basis on Chesapeake Bay. Still further, as many as one hundred barrels of shad have been caught at sea recently at one haul of a purse-net by mackerel fishermen. These evidences would be explained by Mr. Peirce by the assertion of "a year of plenty." To this I will refer further on.

Mr. Peirce's qualified admission as to the value of artificial stocking, as shown by the population of Pacific waters with shad, may be supplemented by some statistics of interest. The shad catch of California in 1888 was 151,871 lbs., or about 45,000 fish. In many places where the largest runs occurred, notably in Monterey Bay, there is no special apparatus used for shad, and more are taken by accident than otherwise. The catch, therefore, while large for a new fishery, probably gives no real idea of the abundance of the species. During 1887 as many as one or two tons of shad were shipped from Santa Cruz, Cal., in one day. They are found as far north as British Columbia and Alaska, and certainly furnish, to a reasonable mind, sufficient evidence as to the beneficial results of artificial stocking. If the one or two hundred thousand delicate little fry carried in cans from the Atlantic coast to California, and deposited in waters to which they were until then unknown, would live and multiply at such a rate, what must be the result of work so much more extensive and constant.

Now, to return to the Atlantic coast. If Mr. Peirce were to ask shad fishermen at Gloucester, N.J., Alexandria, Va., or on the Susquehanna, above Havre de Grace, whether the shad fishing is improving or declining, he would probably be told with a mournful shake of the head that shad fishing is "played out." It is very evident that it is from such sources that Mr. Peirce draws his inspiration. What are the facts in the case as shown by the carefully collected statistics of the Fisheries Division of the United States Fish Commission? Why, that at present the shad catch of the Atlantic coast is increasing at the rate of about one million per annum, that since 1884 this increase has finally resulted in an addition of \$1,200,000 a year to the food supply of the country (at the moderate estimate of 20 cents each) in this one species. And to show that this is not mere vogue, guess work or speculation let us take what statistics are available for the purpose. The first statistics which were taken after the commencement of the artificial propagation of shad, which were those of the census of 1880, which showed the catch of that year to have been 4,140,968. It was not until 1885 that a systematic collection of statistics of the Atlantic coast fisheries was begun. In that year, although at that time, as compared with the present, the output of fry was but meagre, the catch had increased to 5,173,931, an increase of 1,032,963, representing an increase of value of \$208,543 over 1880. In 1886 the catch was 5,584,368, an increase in number of 1,443,300, and in money value of \$288,680 over 1880. In 1887 the catch was 6,715,405, an increase in number of 2,574,437, and of money value \$514,887 over 1880. In 1888 the catch was 7,660,474, an increase in number of 3,519,506, and of money value \$703,901 over 1880. The statistics for 1889 and 1890 are not yet complete, but a conservative estimate places them in the neighbourhood of 9,000,000 and 10,000,000 respectively. The money value is based on a rate of five shad to the dollar. It will be seen by the above statistics that in the four years of 1885-88 the aggregate money value of the increased production was \$1,714,061, and the average annual increase in value \$428,515. Now, it is well known that it was due to the rapid decline of the shad fisheries and the threatened extinction of that fish, more than to any other cause, that the United States Fish Commission came into existence, and to the work of that great organization, supplemented to a small extent by some of the States, alone can be traced this gradual and regular increase in the shad fisheries. How, then, are we to account for the impression which prevail in some localities that the river shad fisheries are on the decline,

and which are undoubtedly the basis of Mr. Peirce's erroneous conclusions. Here comes in the value of statistics over the conjectures of disappointed fishermen and the local *Veritas* or *Pro Bono Publico*. The explanation of it all will be found in the development of the pound-net or gill-net fisheries of the Atlantic coast. Let us take Chesapeake Bay for example. The number of pound-nets in these waters in 1887 was 973; in 1888 it was 1,414. The statistics of 1889 and 1890 are not yet available, but it is estimated that there are now at least 2,000 of them. By reason of these great pound-nets, some of them stretching two and three miles out from the shore, the bulk of the shad catch is now taken in salt water, and finds its way to market, to a great extent, through new channels. As four men operate as many as ten pound-nets, there is great economy in this method of fishing. The gill-nets, also requiring but little capital, have greatly increased in number, and so the fish which find their way into the rivers are apparently less abundant, because the catch is divided among a greater number of fishermen.

The proportion of fish taken in the bays and lower portions of rivers is becoming greater each year, and thus the great and expensive shore seines in fresh water are becoming less and less profitable. As a matter of fact, however, there is a constant increase in the number of shad caught in the rivers, as the statistics show. During the season of 1890, which was regarded by the fishermen of the Potomac River as a poor one, 100,000 more shad were caught in that stream than in 1889, as shown by the statistics of Health Officer Addicks, of Washington, D.C.

It is well known that certain of the salt fish industries of New England are declining, simply because, by reason of improved refrigeration, more fish are finding their way to the markets of the country in a fresh condition, and this, to some, has the appearance of a decline in the fisheries themselves. During 1888, 1889 and 1890 the output of shad fry was many millions greater than during the entire previous history of the work, and this great output will probably be heard from 1891 to 1894, showing, it can be safely predicted, a still greater ratio of increase.

Mr. Peirce complains of the meagre shad catches of the New England waters. This can be traced to the meagreness of the output in those waters. The total output of 1886 was 34,659,000. Of these, but 5,500,000 were deposited in the Hudson and New England waters. In 1887 the output was 108,425,000, and 5,250,000 of these were placed in the Hudson and New England waters. In addition, 6,644,000 eggs were sent to Cold Spring Harbour for hatching and deposit in the Hudson and its tributaries. Here we can trace out cause and effect very clearly. Perhaps in this connection the following concerning the shad fishery of Florida will prove interesting: Compared with 1880, the catch in Florida in 1889 was 1,000 per cent. greater, while the number of fishermen employed was only 200 per cent. greater.

The output of shad fry by the United States Fish Commission is now nearly 150,000,000 per annum. The survival of 7 per cent. of these would equal the shad catch of the Atlantic coast. "Does any one suppose that one in fifteen of the plant of young shad made in the waters of the Delaware last season will ever be seen again by mortal eye?" asks Mr. Peirce in the late *Journal of Carp Culture and Rural Hydraulics*. Well, judging by the results on the Pacific, some of them do live in spite of the wails and lamentations of the "prophets." And would the survival of seven out of one hundred of these fry be an unreasonable expectation?

And now concerning the "years of scarcity and abundance" which prevailed generally before the statistics were regularly and systematically collected, and which are still used as an argument by those who view the question from a purely local standpoint, or are not well informed. Regarding seasons of plenty and scarcity of shad, it has become recognized as a law of the species that years of plenty in certain rivers are superinduced by a high temperature of the water in the early season. Thus while the run of shad in southern rivers and coastal waters south of Virginia may be exceptionally large, the passage of these migratory hordes into the Chesapeake and Delaware basins, as well as into the Hudson and Connecticut, is controlled entirely by the temperature of those waters, while, as often is the case, the waters of the Chesapeake may be of suitable temperature, a reverse condition may exist in the Delaware, in which case the run in the Chesapeake and tributary streams is usually greater than in the Delaware. Reverse the order and like results are obtained. The movement of these migratory species in spring along the coast from the time of their appearance in Florida rivers is wholly a matter of condition of environment. If the waters are not suitable the migration continues until proper conditions present themselves. A perusal of the reports of the Canadian fishery officials for the years in which the shad were least abundant in our waters shows that they were the most prosperous years in these regions.

Regarding the abundance of whitefish, it is acknowledged by all the leading dealers and fishermen of the largest shipping centre on the lakes (Sandusky) that artificial propagation is the only means of maintaining a supply of that species. Again, the facts adduced from the shad hypotheses are applicable to the whitefish. There are seasons of bounteousness in the United States, while the opposite extreme applies to Canada; yet an evenly distributed supply is more generally the rule. With this fish partial returns for 1888 indicate a marked increase in the abundance in localities where artificial propagation has been systematically carried on on a large scale. This is especially noticeable in the fisheries of the western end of Lake Erie. In the region embraced between Toledo and Vermilion, and including those towns, together with Port Clinton, Sandusky, Bass Islands and Huron, the increase in the quantity of fish in 1888 as compared with 1885 amounts to about 12,000,000 lbs., having a market value of over \$300,000. The catch in 1888 in the region named was nearly as large at that of the entire lake in 1885. Now, let us see how the increase of fishing appliances would be likely to affect the individual catches of the fishermen and create the impression among them that the fishery is declining. It is hardly likely that declining fisheries would offer inducements for a rapid increase of fishing appliances. In Lake Erie there were, in 1880, 758 pound-nets; in 1885, 928. Of gill-nets there were in 1880, 5,775; in 1885, 22,664. Of haul seines there were, in 1880, 18; in 1885, 71. Persons employed in 1880, 1,690; in 1885, 4,298. Steam vessels in 1880, 9; in 1885, 53. Other vessels and boats in 1880, 593; in 1885, 1,483. Total of primary products of the fisheries in 1880, \$29,087,000; in 1885, \$37,556,517. This shows the increase for five years, and the succeeding five years, when the statistics are completed, will show still greater increase. If Mr. Peirce is wrong in these matters of shad and whitefish culture where is he likely to be right?

My purpose in taking the trouble to produce these statistics is not with an expectation of convincing Mr. Peirce of the fallacy of his position, I am well aware that that is impossible. But they will enable the readers of *Forest and Stream* to form an intelligent opinion on the subject, as they represent not only the carefully collected statistics of a great Government bureau, but also reflect the opinions of the great fish culturists.

of the country, not one of whom will be found to agree with Mr. Peirce. His charge is that they are all self-interested, and in fact no better than robbers. I leave that element of the discussion to your readers. I will stop only to correct one of Mr. Peirce's misstatements. He attempts to make it appear that the publisher of the *Journal of Carp Culture and Rural Hydraulics* was in some way attacked by me. This is not so. That gentleman has my sympathy. The case still remains the same: Milton P. Peirce *vs.* the world of fish culture. If he was right Prof. Baird was wrong, and all the living lights of modern fish culture are frauds or victims of delusion. And further, if he is right the sooner we know it the better. The country is going to destruction rapidly enough now, according to the "prophets."

Mr. Peirce has some special personal grievances against me.

First, he thinks I am not a fish culturist—as he is. I hasten to say that I am not, and never pretended to be.

Second, because some months ago I said that I had recently had an application to lease certain premises for a trout hatchery, he has since persistently advertised me as the malevolent owner of a trout stream with which I wanted to victimize some poor deluded fish culturist, who had not consulted Mr. Peirce. I am not so fortunate. The fact is, I own a little tract of land on which there is a group of springs, such as are used in this neighbourhood for hatching and rearing trout. The State Hatchery has a similar group and its enterprise is a wonderful success. I know of five such plants near this city. I spoke of the application simply to show that another enterprising citizen wanted to embark in the business. The land was already leased and used for another purpose.

Third, I said early in this controversy that trout planting had greatly improved the fishing in many streams of this State, I think using the number "a hundred." Ever since Mr. Peirce has been in mortal distress because I would not give him the names of those hundred streams. I desire now to amend by saying "hundreds." I think the Platte alone has a hundred tributaries above where it leaves the mountains, and all its waters, accessible to trout, have been improved by planting, in the main stream and its larger branches, trout fry from the State hatchery. But only a few of these streams have been named as yet, and hence it is impossible to satisfy the consuming curiosity of Mr. Peirce upon that score. Besides the Platte, plantings have been made in a dozen other great river systems, or watersheds, viz.: The Arkansas, Rio Grande, Les Animas, San Juan, Gunnison, Blue River, Eagle River, the Boulders, St. Vrain, Big and Little Thompson, Cache-a-la-Poudre, North Platte, and others. I may as well amend again and change "hundreds" to "thousands." And, bear in mind, the Eastern brook trout is not a creature of accident—*vide* Mr. Peirce's theory of "years of plenty and years of scarcity"—in this region. It is an exotic, introduced here but a few years ago through the State hatchery—the best investment the State ever made.

In order that Mr. Peirce may not stumble over any more imaginary obstacles on my account I wish to repeat that I am not a fish culturist; that I have no trout brook to lease, and am not a competitor in his line of business; that I never caught a fish for the purpose of selling it; that I never sold a fish first or second hand; that I know what I see, believe many things I hear a goodly portion of that which I read. I know that trout hatching and trout planting in the waters of Colorado have been a marvelous success; I am convinced that fish culture in other lines in many parts of the world has been no less successful, and that the science is gaining ground every day to the incalculable benefit of nations and peoples. I have lived long enough to see its beginning (in this modern age) to follow its history and to glory in its magnificent triumphs. I do not believe that Mr. Peirce's calling me "callow" in all the Sportsmen's papers of the country, as he seems determined to do, will either stop or turn back the wheels of progress in this great industrial enterprise, nor do I think that all its disciples are fools, and that Mr. Peirce is the only living creature who knows all about it.—W. N. Byers.

FISH CULTURE.

ITS PROGRESS IN VARIOUS COUNTRIES OF THE WORLD, SHOWING ITS PRESENT CONDITION AND RESULTS.

(From "*The Edinburgh Scotsman*.")

[By GEORGE MALCOLM, INVERGARY.]

Can any one render a reason why the family fish-pond should not be as general and useful as the family poultry-house? The advances recently made in the art of fish culture can hardly be described as less than marvellous, and do certainly favour the view upheld by modern pisciculturists that there is no more difficulty attending domestic fish-rearing than there is about domestic poultry-keeping.

Many large fish-breeding establishments, or fish farms, as they are sometimes called, have lately been planted throughout England and Scotland upon a commercial basis, some of which are already doing an extensive and, it would appear, remunerative business. From these great numbers of young fish, and artificially fecundated ova of fish, chiefly of various varieties of non-migratory trout, have been disseminated throughout the country for the furnishing of small private fish nurseries, and the stocking or repletion of larger lakes and streams, both at home and abroad. Printed catalogues and price lists are now regularly issued from these establishments at the advent of every fish-hatching season, and orders are promptly executed to all parts of the United Kingdom; or, as regards ova, to almost any part of the world, with a precision and success which are marvellous, and would, if attempted not very many years ago, have been regarded as the wildest folly. Now we have rival fish farmers keenly advertising their wares by the same attractions as are practised by the breeders of pedigree cattle or poultry, and breeders proclaiming the superior purity of pedigree or surpassing vigour of constitution of their especial stud fish over others in the business.

All this is no doubt very novel, and may be startling to persons who have not noticed the silent but wonderful strides made in the fish-breeder's art in quite recent times. To those who have been engaged in it, however, or who have followed its advances, there is really nothing surprising about it. They know that the possibilities of fish culture have by no means yet been attained. We seem, indeed, to be only at the dawn of an art not only of a most fascinating character, but with a great future of national usefulness before it. Nor is the field of fish culture limited to the family fish-pond or to private cultivation; by far the more important side of pisciculture, or piscifaculture, as the French first called it, is that which bears on the question of an abundant, certain and cheap supply of food fishes for our teeming populations. In our country fish is rarely abundant and cheap, except during an accidental and profitless glut; and while nearly all other articles of human subsistence have been growing more abundant and cheaper, fish, on the whole, has been getting scarcer and dearer.

Here, then, we have presented to us a very interesting economic problem, with remarkable possibilities of beneficial development; and it is perhaps due to this, and to the stimulation of the great International Fisheries Exhibitions held at Berlin, Edinburgh, London, New Orleans, and elsewhere, that among the few subjects of domestic or commercial interest which have not been suppressed by the domination of "Irish affairs" in recent years, fish culture has been steadily making way. The Irish "Nationalist" is a being of omnivorous instincts, but it would probably baulk the ingenuity of the most versatile member of that party to discover in the innocent science of ichthyology any design against his country.

In view of the encouraging successes of other nations, more especially America, of which more hereafter, in the development of aquaculture, and of the obvious possibility of emulation of these examples, why, it may, well be again asked, is fish so dear? Fish is almost alone among the commoner commodities of life scarce and dear in this country. Only the rich and well-to-do can always have it; yet the existence of great magazines of fish food all around our coasts, our drafts on which are but small, is admitted on every hand. The wonder is increased when it is considered that these stores are of perennial growth, and capable of practically unlimited extension at comparatively small expense. Unlike agriculture, ocean fish farming, or aquaculture, is free to all, is subject to no rent, is exempt from rates or taxes, and requires neither tilling nor manuring in the sense applicable to land husbandry. Why, then, are these valuable possessions so little utilized? Why do the British public, though in chronic grumble about the price of fish, still submit to this grievance? It is the present object to offer some elucidation of this matter through a description of the present condition and prospects of the interesting and rapidly-advancing subject of pisciculture. The science of aquaculture embraces various other matters, but here it is proposed to restrict ourselves to a consideration of its bearing on our food and game fishes, and the subject naturally divided itself into two branches, viz. :-

1. Private fish culture for domestic requirements, recreative purposes, &c. ; and

2. Public fish culture, conducted at the public expense, for national and commercial purposes.

In case the benefit derived from fish culture in the past, and the advantages expected from it in the future, may still be viewed with doubt in any quarter, it may be well to formulate some of the objects aimed at, and then to describe the benefits which may reasonably be obtained from an intelligent and liberal-spirited interpretation in practice of these objects. References will be made to the history, progress and present position of the systems of fish culture in other countries as well as our own.

Although our object is chiefly to describe the advances of fish culture in the most recent time, and its capabilities of further beneficial development, readers who are interested in the subject will be willing to have some short account of its past history. Everybody knows in a general way that the art of angling, and of fish capture at large, and possibly the art of artificial fish-breeding, too, in the crudest fashion, are of the highest antiquity. But though a few leading and favourite works, such as Walton's immortal classic, which has now gone through more than one hundred editions; Sir Humphrey Davy's charming "Salmonia," Christopher North's "Noctes Ambrosianae," and several of the more reputable manuals on angling, are extensively read, not many persons outside the circle of the knights of the angle, or the profession of ichthyology, are aware of the immense body of literature which exists upon these subjects. A distinguished living American pisciculturist recently stated that his library contained upwards of 2,000 volumes relating to fish and fishing, and that he regarded his collection as far from complete. The late Mr. Alfred Denison, who was well known as one of the most enthusiastic of anglers, was the fortunate possessor of an almost unique library of angling works, which numbered over 3,000 volumes. In the "Bibliotheca Piscatoria" of Westwood & Satchell (1883) 3,158 editions and reprints of 2,148 distinct works are registered. And still new works on piscatorial subjects come in great abundance from the press of nearly every nation.

Antiquarians of the piscatorial type have claimed for angling, with perhaps less reliability than enthusiasm, that it was almost contemporaneous with the advent of man. It is at least frequently mentioned in the earlier portions of Holy Writ. Fishes take precedence of terrestrial animals in the Mosaic account of the genesis of life; and fishes were, in the nature of the case, the only form of life which suffered not from the Deluge. The readings of ancient Egyptian walls and monuments have revealed many allusions to angling and representations of hooks, spears and nets, showing that this people were anciently acquainted with some of the modes of fishing still practised, rude and simple though their implements were, as compared with the number and elaboration of the fishing requisites of our day.

"That the practice of casting into the brook," says a modern writer, "had its origin in necessity, the mother of so many inventions, can hardly be doubted; but it is equally clear that the refined skill exhibited in this pursuit in the present day has been derived from leisure and the love of sport, aided by the more delicate gear which modern ingenuity has invented for the deception of the finny race."

Between the rude and clumsy implements depicted on Egyptian tombs or Herculaneum pillars, and the ingenious and elegant production of the fishing tackle factories of our day; between the Vivaria of the Romans or the fish stewes of the middle ages, and the splendid fish farms and stations, with their scientific equipments of our day, there is indeed a long step.

Among the ancients the earliest systematic writer on fishing was Oppian, whose *Halientica* in five books is entitled to rank. In our own country the earliest example of a printed book on fishing is the famous "Booke of St. Albans," by Dame Juliana Berners, the first edition of which is dated 1486, less than ten years after the first book was printed in England. Dame Berners, who is said to have been Prioress of the Benedictine Nunnery of Sopwell, is unquestionably the earliest writer in English literature on the art of angling. The "Dysporte of Fysshing," as originally published, was associated with treatises by the same authoress on hunting, hawking, horses, and coat armour, but ere long that part of the conjoined works in which we are here interested was separately republished, under the title "Treatise of Fysshing wyth an Angle," and since that period this very quaint book has gone through many editions. Of the earliest editions very few copies are extant. Of the third edition (1503) only one copy is known. It belonged to Mr. George Daniel, was sold in 1864 at his sale for £110, and is now in the Huth Library.

The next book of note on fishing was the first edition of Mascal's "Booke of Fishing with Hooke and Line, and all other instruments thereunto belonging," which appeared in 1590, but which is notable to us only as containing at that early date some remarks on the preservation of fish in ponds.

These two works, with the "Secrets of Angling," by John Dennys, 1613, and Markham's "Pleasures of Princes," were the only books dealing with angling which had been published in this country prior to

the appearance of Isaac Walton's "Compleat Angler." Barker's "Art of Angling" indeed appeared two years before Walton's book, and the latter acknowledges his indebtedness to the former in the preparation of his great work; but Barker's smaller work may be said to have ushered in the Waltonian period.

Of the "Compleat Angler" detailed notice is unnecessary. No book in its particular walk of literature and few in any other department, has had a title of its popularity. Originally published in 1653, it has already been more than one hundred times republished, and apparently the demand for it is destined to be perpetual. The popularity of Walton's book in the present day, however, certainly does not arise from its merit as a reliable guide to the art of angling, but rather from its almost perfect pastoral style, and the quaint and restful thoughts permeating its delightful dialogues and reveries. The earlier editions of the "Compleat Angler" are now very scarce. Copies of the first edition bring a very high price. The one in the Gibson Craig Collection, a fine specimen, recently sold, fetched the unprecedented sum of £195.

Some apology may be necessary for this digression into the domain of angling literature, which, however, will not be further pursued. Suffice it to say that so numerous have been the works published on fish and fishing during the last and the present centuries that at the present time it is computed that in English literature alone there are between 600 and 700 works on angling, and probably about 300 besides, which treat of the propagation of fish, and the management of British and colonial fisheries. The pursuits and pleasures of the knights of the rod and angle may be, and as a matter of fact already are, largely augmented by the aids of intelligent fish culture. It is, therefore, meet that the angler should be here considered, though it must be admitted that his part of the case is a mere fringe of it. Aquaculture embraces very much larger and more beneficent possibilities, and the day is probably not far distant when public fish culture, carried on for the public behoof at the public expense, will receive as much attention in this country as it does in many other countries, notably in America.

Whoever cares to look into this question will find no trustworthy traces of fish culture by artificial or aided means having been practised by the ancients, or even in the middle ages. Reference may, no doubt, be made to the extensive fish ponds or vivaria of the Romans, which, as is sometimes claimed for them, may also have been known in still older times to the Egyptians and Chinese; but there is no solid ground for believing that any of these nations ever practised or were in any wise acquainted with the modern methods of the fish culturist, who practises his art by manual extrusion of ova from live fish, followed by its artificial fecundation, and all the nice details of management through the embryonic stage, and the infantile and juvenile periods of fish life.

The mode of pond culture practised by the ancient Egyptians and the later Romans, just averted to, was in reality not fish cultivation, but fish capture, such as is known to the present day in the lagoons of the East. It consisted in merely driving fish by natural means into prepared water enclosures or vivaria, some of which were of vast extent, where the stock of impounded fish could be drawn upon at pleasure, and replenished from time to time by fresh drafts from the ocean. In much the same manner were managed the smaller ponds and fish stews of a later period in our own country, of which abundant remains—but little or nothing but remains—are to be found to the present day all over England. These remains are specially numerous where stood the homes of the monks and friars of a former age. Whosoever is curious about this will find, if he looks into the topography of the bygone great ecclesiastical houses, that they were set down with a very discriminating regard to the bounties as well as the beauties of their situation. While their founders had one eye open to the fairness and fertility of the surrounding domain, they generally turned the other to the proximity of some abundant fish, especially salmon. Alas! that so many of these rivers are now entirely bereft of salmon—indeed, of edible fish of any kind.

The practice of pond culture or the rearing of fish, chiefly carp and gold fish, in ponds for domestic use, has been long in use in Germany, and is still in considerable vogue. All the great land owners—Prince Bismarck, for example—maintain a supply of carp, not only for their own private establishments, but in some cases for commercial gain. Nor is this confined to the larger houses; domesticated carp are very common among the Germans, who have set an example in that respect which has been very successfully copied recently by the Americans. From the eggs of highly-bred carp, originally imported from Germany, the United States Fish Commission have propagated large numbers of that fish, and distributed them to all corners all over the States. In our own country the systematic keeping of fish in confinement for domestic or utilitarian purposes has been in abeyance for centuries. Some fish ponds there always have been, of course; but these have been maintained chiefly for sport, or for the embellishment of the private demesnes to which they are attached. We are again, however, it is hoped—thanks to the impetus derived from recent discoveries in pisciculture—on the eve of a revival of pond culture of fish for domestic requirements. Should there be such a revival, it may be presumed that, being now based on an intelligent alliance of science with practice, it may have the promise of success and stability. Many other varieties of fresh water fish than carp, though now, as regards this country, in a purely feral state, are amenable to a high degree of domestication. Intelligent artificial fish culture, it would therefore seem, may be the means of bringing the family fish pond into as real and common use as the family poultry or bee-house.

The merit of the discovery of the art of artificial fertilisation of the ova of fish belongs to a Westphalian German, named Stephan Ludwig Jacobi, who practised the art as early as 1778. Some critics have sought to belittle Jacobi's discovery, by the assertion that it was merely the revival of a lost art, formerly known to the Italians, but there would appear to be no good grounds for supposing that artificial fish culture was known to any people prior to its discovery by Jacobi in the middle of the last century. To him it came undoubtedly as an original invention, and as such he is entitled to the credit of it.

The importance and widely-reaching possibilities of this discovery were at once apprehended, though it was not until long afterwards that it was brought into extensive use even by the countrymen of the discoverer. By Jacobi's own family it was practised for many years, and they would appear to have had correspondents in England and France, as well as in America. The relations of Jacobi the elder with England seems to have secured him a pension in 1771 from George III. Though the art thus discovered in Germany about the middle of the last century has been slowly developed, it can be traced in Italy in 1791, in France in 1820, in Great Britain in 1837, in Norway in 1850, in the United States in 1853 and in Canada in 1863. It is, however, only within the last twenty years that under alarm as to the economic condition of many of the world's greatest fisheries it has been taken up by any nation (with the single exception of France, perhaps) upon a great scale, and under official auspices, as the only feasible means of reparation of improvident and wasteful use of those fisheries, and of maintaining in the future a full supply for every possible

public requirement. That public fish culture is equal to this will be seen later; but, in the first place, some account of the processes of artificial fish propagation, as it is now practised, and of its application to private fish culture, will here be given.

The last two decades have seen the establishment, on a commercial basis, of a considerable number of private artificial fisheries in our own country, and by this means, so far as regards inland private fisheries, all requirements are being supplied. From these fish-farms, too, somewhat extensive contributions of ova have been made to our Australian and New Zealand colonies, with a view of solving the problem (still unsolved, we fear) of acclimatization of salmonidæ in these waters. We have also had interchanges of ova with our American cousins. All this has been accomplished through private enterprise exclusively. It has been limited to non-migratory fresh water fishes and several varieties of salmonidæ—what are generally known as game fishes. But these are no more than the outworks of this great matter. So far as Great Britain is concerned, the culture, by artificial help, of ocean fisheries has had no existence. In that field we are, at the present time, quite outpaced by other nationalities. All the successes and all the honours have fallen to foreign pisciculturists.

Like many great operations, the fertilisation of the ova or eggs of fish is an exceedingly simple though delicate process. Nothing more is required than care in the selection of healthy, mature fish in a ripe condition—that is to say, ready to spawn in the natural manner—and some caution and gentleness in performing the operation. The operation itself consists in the passage, with more or less pressure, of the operator's hand down the abdomen of the female fish, thus extruding the ripe ova into a shallow receptacle, and afterwards suffusing the ova with the milt of the male fish obtained in the same manner. So far, if this process is carefully executed, there is almost no risk of miscarriage.

In early practice a good deal of water was thought to be an essential admixture in the fertilising process, but now what is called the dry method—a discovery of Wrasskie, a Russian pisciculturist—is in all but universal practice. Under the dry method, where little water is used, the percentage of fertilisation is much greater than under the former plan. If skillfully manipulated unfertilised eggs should not exceed 5 per cent. The rationale of this discovery—which, though made in 1864, was not known out of Russia for a good many years afterwards—is that the spermatozoa or vital principle of the milt is much more powerful and active, and that for a longer period, when undiluted with water than when, as formerly was done, both it and the ova were submerged under several inches of water in the fecundating vessels.

It has been ascertained that ripe milt, if, when obtained, is at once excluded from air and water, may be kept alive for several days, an obvious advantage of this being that it is thereby unnecessary to hurry the process of impregnation. Some of the milt may even be saved for use on another day. It follows from this most interesting fact that, without removing the parent fishes from their homes, a cross may be effected between fish frequenting waters far apart. It may even be possible some day to effect changes of this vitalising material with our American brethren for the extension and healthy cross-breeding of some of our and their more valuable fish species. On this subject, Mr. Livingstone Stone in his "Domesticated Trout," makes these amusing remarks:—

"In consequence of the discovery that all mature eggs are impregnated by coming in contact with ripe milt—the fish, both male and female, being taken at random—we are compelled to admit, however unwillingly, that the origin of fish life, in artificial impregnation at least, is wholly a mechanical affair. The mere mechanical mixing of the ripe milt of any male and the ripe eggs of any female creates the germ of life, and perpetuates the race; all previous considerations of pairing off among the fish, or of this or that one selecting its mate, counting for nothing. The fish of either sex has no choice and no knowledge as to the individual through whom its progeny shall be generated. The female fish may become a mother without ever having seen her mate, and the male may become the father of innumerable offspring without ever having seen the mother. Whatever margin of uncertainty the unimpregnated eggs of the old system might have afforded for the conjecture that empty eggs were the consequence of misaiming on the part of the fish, or rather of the manipulator, there is none left now. Mechanical contact of eggs and milt, indiscriminately taken, produces all the results that mutual affection and choice of mates could accomplish. There is now no possible place left for sentiment in the connubial relations of trout that are artificially spawned.

Having secured a supply of properly impregnated ova, the next step in the process of fish raising is to place it in the hatching boxes. Since the days of Jacobi, Shaw at Drumlannrig, and the earlier experiments at Stormontfield, on the great Scottish salmon river Tay, the advances in the knowledge of fish culture have included many improvements in the apparatus employed in hatching. But one must repair to Germany or America to see fish hatching on the largest scale. Our own hatcheries are as yet limited to the propagation of fresh water fish and anadromous salmonidæ, but they include several establishments which in their special line of work have almost no rivals. The splendid fish farm at Howietoun, near Stirling, is a notable example, upon which its owner, Sir James Maitland, Bart., has bestowed the greatest pains, and no little expense, to render it what it is—the most scientific and complete, though perhaps not the most extensive, fish farm in the world. Beginning in an experimental way, and on a small scale, some years ago, Sir James has made many investigations into fish cultural science, and has successfully solved some knotty problems relating to hybridisation and other subjects. He has gradually extended his operations, until he is now in a position to supply, and does supply, his wares to all parts of the world to which the fish culturist's art has yet extended. Scarcely less complete are Mr. Armistead's well known fishery on the Solway, and the Stormontfield and Dupplin hatcheries, in Scotland; and in England, those of Mr. Andrews at Guildford, Mr. Capel at Crays Foot, the National Fish Culture Association at Delaford Park, and the Midland Fish Culture Establishment at Malvern Wells. A peculiarity of the last mentioned establishment—which was conducted till his death with great spirit and success by Mr. William Burgess—is, that, for a small charge, parcels of ova are received from any quarter, and there hatched out, the owners receiving their parcels back in the condition of fry.

The first and most indispensable requisite of successful hatching is an unfailing supply of pure water. For hatching purpose spring water is considered best, because of its purity, equable temperature and small liability to freeze. Speaking here of hatcheries on a small scale for limited objects, whether for the stocking of private lakes and streams or family fish ponds, the hatchery should be located in a place accessible to a ready and steady water supply. The hatchery itself may be very simple and inexpensive, and in extent what you require it to be—from the single box, hatching only a few hundreds, to a multiplication of boxes, capable of turning out hundreds of thousands.

Various forms of hatching boxes have been devised and brought into use, some constructed of wood, some of slate, iron, fireclay, &c. In large permanent establishments it is, no doubt, desirable to have the incubating and other apparatus as durable as possible; but in small hatcheries, for limited service, there is nothing better or more economical than wood, well charred on the interior sides to prevent fungus, the most deadly foe of the fish culturist. The boxes are of rectangular shape—elongated to suit the situation. When gravel is used as a bed for the eggs it must be previously thoroughly well scalded with hot water. In practice, however, the use of gravel is now much discarded in favour of glass grilles, which were first introduced by M. Coste, the eminent French pisciculturist. These grilles or gratings are composed of thin glass tubes, extending across the hatching box, and placed side by side, with sufficient closeness as to support the eggs in rows in the hollows between the tubes. The great advantage of this system is its cleanliness, and its facility for segregation of the eggs, so that over and under and all about every individual one there flows an equal, properly aerated and unceasing current of water, so essential to successful incubation.

Various other methods of hatching have been tried, some of them very ingenious, but none have in practice been found better than the system just described. The principle of some has been an upward, and of some a downward, current. Mr. Ainsworth, an ingenious American, is the author of a sort of hatching engine in which breeding fish may freely enter, but cannot leave till they have fulfilled their functions. This invention is somewhat on the lines of the mechanical poultry layer, with which our American friends amused us some while ago. All such inventions and mechanical aids, while very ingenious and probably not impossible contrivances, have been doomed to failure, however, before the simplicity, naturalness and economy of the prevailing method.

We have not space to enter at length into all the subsequent processes of fish rearing—the incubation of the embryo, lasting in the case of trout about fifty days, and about ninety days in the case of salmon; the alevin stage, being the period of about four weeks after hatching, during which the young fish subsists on the sac or yolk of the egg whence it issued, and to which it remains attached; the fry period; the yearling period; the two-year-old period; and, finally, the adult age—deeply interesting as the life history of fish is. Nor would these details probably be of much interest to the non-professional reader, who is not yet to some extent educated in the art and bitten by its fascinations. To such as wish to study the scientific principles of artificial fish culture, however, there are many excellent works available, by British, American, French, German, and other authors.

The amateur or domestic fish culturist requires for his guidance only a few simple rules, reduced to careful practice, and an ordinary supply of patience. His apparatus may be of very simple description. From one of the larger fish farms ova have, it is stated, been supplied to purchasers of every class, from Royalty to the schoolboy, and in all quantities, from many hundreds of thousands to the contents of a single box, thus illustrating the simplicity of this art as well as its growing interest among all classes. It is limited neither to the professional culturist, who pursues his vocation on a very large scale and on commercial lines, nor to the wealthy landowner, who desires in this way to stock or renovate his waters and sets up a private hatchery for this purpose. It may be taken up by the budding naturalist schoolboy, who, it may be, has secretly robbed the nest of a member of the finny tribe—as he has often done of the feathered tribe—and has transferred his spoil to a box or tub with a tiny rill flowing through it, and watches with great interest and delight the development of his delicate but clever little friends; or it may become an appanage of every household where there is a stream of pure water, and turned to profit with as much ease and certainty as the rearing of poultry and bees for family use; and certain it is that the fish fancier will derive no less interest and amusement from his art than the poultry or bee-fancier does.

It has already been said the apparatus required for domestic fish rearing may be very simple and inexpensive. The present writer has been concerned for some years with the rearing of *Salmo Levenensis* (the celebrated trout of Loch Leven) and *Salmo Fontinalis* (American brook trout) for the purpose of stocking certain virgin waters, and improving existing trout in certain others. Ova for this purpose have been procured from the famous Howietoun fishery. Although the situation involves a journey of about forty-eight hours, with much jolting over railway and road, the ova being carefully packed according to the latest knowledge, have invariably arrived in perfect condition, with hardly a dead specimen in the lot of some 30,000 or thereabouts. Here the subsequent hatching and alevin life have been effected in the domestic laundry (which is, of course, not in ordinary use at that time), in three or four hatching boxes surmounting each other, and supplied by the water of the laundry pipe, which, flowing into the nearest end of the uppermost box, overflows at the other end into the second uppermost box, and so on till it issues at the farther end of the lowermost box.

Reference has been made to the capability of domesticating and taming trout and other fish now in a feral condition. At Howietoun fishery many of the trout are said to be able to recognise their attendants and to answer to call or signal. Into the vexed question how many senses fishes possess—whether they can hear and smell as well as feel, taste and see—we shall not here enter; but there is at least no room to doubt that by touch, taste and sight—of which latter sense they have a most acute endowment—fish can be trained to a high degree of domestication and familiarity with man. In the cases in the writer's experience referred to in the preceding paragraph, the young fish became wonderfully tame. As a precaution against the cannibalistic propensities of the larger native trout in the lake for which they were being reared, they were, after leaving the hatching boxes, placed in intermediate ponds or nurseries for two years before being turned at large. While in these ponds they not only followed their attendant all around, but came without fear and took food from his hand.

As to the conveyance of ova and young fish from one place to another, so well is this now understood that ova can be sent in specially constructed boxes to any part of this country, with absolute safety under ordinary and obvious precautions; while with the aid of the ice and refrigerators, it can also be sent with comparatively little risk to any part of the world. For example, the Howietoun fishery successfully exported last year, to the order of the New Zealand Government, over half a million of salmon ova obtained from the Tay, Forth and Tweed rivers, and in 1887 sent a similar quantity to the same quarter, which also arrived in good condition. Then, as regard the transportation of live fish, this, by means of scientifically constructed tanks, aided by the use of ice, can be done with a minimum of risk to all parts of this country with fish not exceeding two years of age. So far, the difficulties of transporting older fish to long distances in this country, or of sending fish of any age abroad in large numbers, have been found insuperable. A consignment of live tench and perch in tanks was made to Japan in February, 1889, by the late Mr. Burgess,

of the Midland Counties Fish Culture Establishment, but we have not heard its fate. In Japan the subject of fish culture appears to be receiving considerable attention, both from the Government and private persons. Its waters are said to be peculiarly well adapted for aquaculture, and the young fish are fed on wheat, flour and the chrysalides of silk worms.

Additional interest in the means of transportation of fish has recently been aroused by an "invention" of an American gentleman, who thinks this can be done successfully by hermetically sealing them in vessels partly filled with water. As it is stated that tests of the invention have been made by one of the professors on the United States Fish Commission the matter would appear to have received some serious consideration, but it does not wear a likely look. It would, perhaps, be too much to say that we shall never attain to the means of transferring fish of any age or size from localities widely apart—probably by some adaptation of the compression of air—and no invention could be more valuable; but it must, we fear, be admitted that as yet we have had no approach to this.

With regard to the all-important matter of feeding of fish kept in confinement for domestic purposes, or in nurseries, till they are fit to defend themselves from all attacks, whether of their natural enemies or foes of their own species, it may be best to refer the reader to the various manuals on the subject. But here it may be briefly stated that after the young fish have passed the alevin stage, till which period they require no subsistence but that of the sac or ova from which they have sprung, they are in the net or fry stage generally fed several times a day with finely divided yolk of egg; afterwards with liver and milk curd; and still later with vegetable, or meat or shellfish diet, such as vermicelli, finely triturated raw horse-flesh or clams, or with any other available food of similar character. At Howietoun, where several millions of ova are annually hatched, and a proportionate number of fish of all ages have to be fed, the flesh of a considerable number of horses, and a very large quantity of shell fish are annually consumed—the latter being given to the large stud fish. Similar provision for feeding is made at every fish farm. The writer, having access neither to horse-flesh nor shell-fish, has found venison a very good substitute when finely divided. Besides this, the fish depend largely on natural supplies of food both at the bottom and surface of the water, and much may be done to augment and improve these natural supplies by the selection of sites for ponds supplied by water rich in natural food for fish, and by a judicious stocking of the ponds with aquatic plants suitable for fish rearing.

The preceding remarks have related chiefly to "Private Fish Culture" and to its bearings on domestic economy, and the stocking of private fisheries for purposes of sport. This is what may be called the recreative and minor side of the case. The political economist would regard it as the mere elements or outer rim of a great question laden with potential benefits to the great consuming public of the most important kind. Let us now try to set forth what is understood by "Public Fish Culture," and what its present position is both at home and abroad.

What is here signified by "Public Fish Culture" is the cultivation of food fishes carried on for the public needs at the public expense. Its legitimate sphere is the adequate stocking of public waters with valuable fish, and the maintenance of the same—in which fisheries the public interest is universal, and no individual or private rights exist. The scope of aquaculture is, it should be said, not restricted to food fishes, but, in the words of one of its ablest exponents, "is now understood to signify the exploitation of all products of sea, lake and river, including the capture of whales, turtles, pearls, corals and sponges." The present intention is, however, to limit the application of these remarks to such products of the ocean, lakes, and rivers as are really valuable for human food. Doubtless, the whale is a most precious animal, whose preservation is most desirable. Whale oil is a very valuable commodity, and whalebone is nearly invaluable, selling, as it does at the present time, at over £2,000 per ton. Every one knows how precious to the epicure is the turtle; how beautiful and valuable are pearls and corals; and how useful are sponges. But these, not being regarded as necessary wants of the public, may here be left out of our account. We must, however, here allude for a moment to one of the latest feats of aquaculture in connection with sponges, which are now being successfully raised by means of cuttings, just as land plants are. A new industry, to which the Austro-Hungarian Government has extended its protection, has been created on the coast of Dalmatia by this method, first discovered by Professor Oscar Schmidt, of the University of Gratz, of multiplying sponges by breaking off and transplanting pieces of living sponge. Attempts have been made to transplant live adult sponges from the bottom of one sea to that of another, but, so far, the success of this experiment has not been encouraging.

Notwithstanding the interest in commercial fisheries which was aroused by the International Fisheries Exhibitions held in Berlin in 1880, in Edinburgh in 1882, and in London in 1883, it is still improbable that more than a small minority of the British public at least ever associated the ocean with the land as a field fitted and prepared for a great cultivation of food. And yet it really is so. There are in the great sea expanses of unexplored and virgin water capable of yielding prodigious stores of fish food, just as there still are on the land immense tracts of unpopulated country, now mere wastes, but capable by cultivation of abounding returns of fruits of the earth. When the creative fiat went forth man was awarded dominion over the sea and all therein, just as much as over the land; but just as he must win the gains of the soil by the sweat of his brow, so must he reclaim the harvest of the sea by unceasing and intelligent methods of labour.

Further, all or nearly all the conditions and methods of land cultivation have their analogues in the economic cultivation of the waters. The sounds and shoals and banks in the ocean are the great fish farms; the ocean-going fishing craft are the necessary farm offices; and the various appliances of fish capture are the complements of our scientific implements of land husbandry. Many foreign substances are in the present day applied to the soil for maintaining or renovating its fertility, and we do, or should do, something like this for our fish farms by the cultivation of *algæ* and other forms of aquatic vegetation upon which breed and live those minute organisms which so largely contribute to the support of fish life. When with regard to the land reparative measures are neglected, its fruitful elements soon become exhausted. We can easily do the same to our ocean food possessions. We have too often, alas, done so already by a long course of improvident and wasteful reaping without adequate nursing or building up. By judicious interbreeding and preservation of the fittest we have enormously improved our agricultural stock; and by a like process, though not yet to an equal extent, we have done the same with some kinds of aquacultural stock, and have demonstrated that similar treatment may be extended to all. Scientific and provident farming ashore is

careful never to miscrop or overcrop, and is alive to the value of the practice of fallowing. Scientific and provident farming afloat will in time equally recognize the imperative need of these rules of good husbandry.

In several important respects the aquaculturist has advantages over the agriculturist. He has a free hand to sow and to reap where he wills. He is under no lord of the soil, and knows nothing of "Coercion" Acts or legislative vexations of any kind. He is hampered by no private rights. His husbandry exacts less personal attention, and his crops do not suffer from atmospheric influences, and, when obtained, they are quickly realised. And, above all, he sits, or rather sails, rent and taxation free.

But what use have we made of these bountiful oceanic provisions? Have we taken advantage of them as we have in these later times of the fruitful qualities of the land? Clearly not. Though we go far afield for bread and beef adequate for our teeming and ever-increasing millions, we have hitherto strangely overlooked or neglected the possibilities of relieving the demands of subsistence by a better cultivation of our marine food farms. We have been strangely passive under the ever-growing difficulty and cost of procuring sufficient supplies of fish, while it has been known that by the adoption of rational and adequate methods of fish culture and of fish capture we may indefinitely increase and consequently cheapen our national fish supply.

It may be asked, What are these rational and adequate methods? The reply is, that artificially aided fish culture is capable of increasing fish supply to a practically unlimited extent. There are four known methods of fish culture, viz. :—1. By pond culture; 2. By transplantation of sexually mature fish; 3. By transplantation of naturally deposited spawn; and 4. By artificial extraction and incubation of spawn. It has already been shown that by the last-mentioned means complete control of the reproductive functions of fresh water and anadromous fish, such as the salmon, has been acquired. In the present day these kinds of fish can and are being multiplied to any required extent on many inland fish farms with all the certainty of a science. The remainder of our space will be devoted to a short review of the other methods of pisciculture above stated.

Necessarily, the cultivation and increase by artificial means of migratory and pelagic varieties of fish is attended with greater difficulty than is the case with non-migratory fish. Our knowledge of the life-history of many ocean-going fishes, and even of the salmon, when it repairs to the sea, is still far from complete. Many of these wandering fish do fortunately, however, once every year approach the land or enter into sounds and shallows, for the purpose of breeding, and opportunity is thereby given to aid or protect the generation of these species. Some other kinds, which literally cast their seed upon the waters, are much less amenable to piscicultural control, but with regard to these nature has herself provided a safeguard against extermination. Their fecundity is so inconceivable that were it not for wholesale destruction of their spawn from natural causes, as well as the depredations of species upon species, not only all the arts of man would fail to make any practical inroad on their numbers, but the sea itself would cease to give room for them. It has been calculated that of some kinds of fish not more than one in 500,000 reaches adult life, and that for every full-grown oyster upwards of 1,000,000 die.

Thus it is that though the fertility of many kinds of oceanic fish surpasses comprehension, they are, nevertheless, so reduced in numbers by the operation of various natural causes—the predatory instincts of other species—and the wasteful arts of capture practised by man, that great difficulty is often experienced in obtaining an adequate fish supply for human needs. Some species would seem, indeed, to have been really exterminated, and others have narrowly escaped the same fate. The salmon itself, though now better protected, not so long ago seemed in danger of extermination, and has actually been completely destroyed in many places where it formerly abounded. Such, also, has been the fate of the oyster, lobster, and other mollusca.

In considering the best remedial measures for decayed fisheries, and the economic extension of the whole fishing industries, a controversy has arisen among experts as to the necessity or value of protective legislation. In Great Britain the positive side of this question is led by Dr. Francis Day, who is a strenuous advocate of close times and legal control generally; while the negative view is as firmly held by Professor Huxley, who sees no good in protective Acts of Parliament, or, as he puts it, "keeping the wolves off during the lambing season will afford not much protection if you withdraw shepherd and dogs during the rest of the year." In the United States of America, which at the present time leads the van of fishery matters, the Chief Commissioner of Fisheries, backed by public opinion, is averse to restrictive laws, and no such enactments there exist. We take this to refer to sea fisheries, however, and must assume that none of these authorities are wholly opposed to protection of non-migratory fish during the fish-breeding period, the local habits of which would expose them to the danger of extinction. Fishes of anadromous and pelagic habits, however, could not be caught at all if not when they enter our rivers or approach our coasts to spawn. Nor can it matter at what season a fish is killed if it is killed, at all before it spawns. Here, however, pisciculture steps in and says all such considerations are superseded by its intelligent practice.

Our own nation cannot yet be quoted for the best illustrations of the power and value of public fish culture. On the contrary, we are, with respect to national recognition of this great question, almost at the foot of the scale, though by means of private enterprise, as has been shown, considerable progress has been made in one branch of the subject. We have been left behind by more than one nationality, but as the United States of America have outdistanced all others, a short account of what has there been done may be the best means of describing what may and should be done for national encouragement of pisciculture.

In America, as elsewhere, long neglect and improvident methods of fishing had seriously diminished the yield and value of many of the public fisheries, and the outlook was sufficiently gloomy when, in 1871, Congress appointed a Commission of Fish and Fisheries, whose duties were thus defined: "To prosecute investigations with the view of ascertaining whether any and what diminution in the number of food fishes of the coast and the lakes of the United States has taken place; and, if so, to what causes the same is due; and, also, whether any and what protection, prohibitory or precautionary, measures should be adopted in the premises." The late Professor Spencer Baird, secretary of the Smithsonian Institution, a biologist and scientist of the first rank, and the author of many learned works, was appointed Chief Commissioner. To Professor Spencer Baird, it may here be mentioned, the grand prize of the International Fisheries Exhibition at Berlin, in 1880, was awarded, as "the first fish culturist in the world."

Previous to this, it should be stated, several American States had made appropriations of money for the purpose of investigation and experiment on the lines of the Congressional Commission, and most of the States have followed, and vied with each other in liberal co-operation in the general work of the Commission.

The scope of the Commission, it will be seen, included a systematic investigation of the waters of the United States; the life history of their food fishes, and of the foes and friends of the same; the influence of currents, temperatures, and other physical phenomena on the welfare of fish. It included also a review of various methods and seasons of fishing then in use, and how far these had tended to the depletion of certain fisheries. That there had been a very serious depletion of some American fisheries, and that measures for their repletion were urgently required, was speedily ascertained by the Commission. It accordingly at once gave consideration to measures for improving these fisheries—the multiplication everywhere of existing valuable food fishes and the introduction and acclimatisation of others.

In furtherance of these objects, and liberally supported by his Government, the Chief Commissioner and his staff lost no time. Their labours have been more largely conducted along the North Atlantic coast than elsewhere, for there the most important sea fisheries are located; but stations have also been planted on the Pacific coast, and the great inland lakes and rivers. At the present time about twenty of these stations, each with its separate skilled staff, laboratory, hatching apparatus, &c., are in full operation in the United States; and some idea of the magnitude and usefulness of their work may be gathered from such facts as that during the first eleven years of the operations of the United States Fisheries Commission no fewer than 341,096,071 fish were distributed from these stations among public waters, and that in the year 1885 alone, among many other distributions, 92,000,000 eggs of the whitefish were hatched and distributed. Operations on the same gigantic scale have been carried on continuously by the Commission, and have extended to over thirty species of fish and mollusca, including brook, lake and squassa trout; Atlantic, California, and land-locked salmon; striped bass and sea bass; whitefish, shad, sturgeon, smelt, herring, cod, haddock, alewife, mackerel, pike, perch, grayling, carp, tench, goldfish, &c.; oyster, lobster, clam, &c.

As illustrating the thoroughness of the work of the American Fish Commission, a few words may be quoted from the pen of Professor Brown Goode, one of the members of the staff, and himself a leading pisciculturist:—

"For twelve years the Commissioner, with a party of specialists, has devoted the summer season to work on the shore at various stations along the coast from North Carolina to Nova Scotia. A suitable place having been selected, a temporary laboratory is fitted up, with the necessary appliances for collection and study. In this are placed from ten to twenty tables, each occupied by an investigator, either an officer of the Commission or a volunteer. The regular routine of operations at a summer station includes all the forms of activity known to naturalists, collecting along the shore, seining upon the beaches, setting traps for animals not otherwise to be obtained, and scraping with dredges and trawl the bottom of the sea, &c."

The American Commission has also prepared careful life histories of the principal fishes; and embryology in connection with fish culture has been a special object of study. The influence of the temperature of the water and of storms upon the local movements of fish have been investigated and recorded. Fish-ways to facilitate the running of fish over natural obstacles have been constructed. Many original and valuable improvements in the apparatus of fish capture and fish breeding have been brought into use, such as gill-nets floated with covered glass balls, for the taking of cod, thus obviating the use of hooks and the necessity of bait.

The construction of incubating apparatus, with special adaptation to the physical properties of the various kinds of fish spawn, has had special attention. The eggs of fish are classified by ichthyologists into four varieties:—(1) Eggs non-adhesive, and too heavy to float, such as those of salmon and trout; (2) eggs also heavy, but adhesive, such as those of the herring, &c.; (3) semi-buoyant eggs, like those of the shad and whitefish; and (4) free floating eggs, like those of the cod and mackerel. The first of these kinds are hatched in boxes and on trays or glass grilles, as has already been described; the second on twigs or glass frames, to which they adhere. The other classes require somewhat different treatment, owing to the necessity for carrying on the process of incubation while the eggs are in suspension; but this has been met by ingenious contrivances for the impounding and safety of free floating ova, while still keeping up that degree of agitation or circulation of the water which is necessary for successful hatching. For the hatching of the eggs of the lobster an ingenious automatic jar, the invention of Colonel Macdonald, who is better known in connection with his improved fish-ladders, is now in successful use.

Aquatic plants, upon which flourish fish insects and mollusca, which in turn are fed upon by the fish, have been freely introduced into American fish nurseries. Three or four steamers and several sailing craft, specially fitted up for fish cultural work, have been placed at the disposal of the Commission. For the more rapid and safe conveyance of fish and ova from the various distributing stations, specially constructed railway cars, fitted with refrigerators, &c., are run at reduced freights by the various railway companies. The best information has been collected, and instruction given, as to the curing and packing of fish for market.

Space forbids the giving of further details of the active work of the United States Fish Commission. The results have been eminently successful and highly gratifying to the Government, which originated and has so liberally supported the work. The field of operations has by no means yet been covered, but the benefits already derived have been most marked. Rivers, such as the Sacramento, which, owing to immoderate and wasteful fishing—the direct result, probably, of the invention of fish canning—had been greatly depleted, have been marvellously recouped, so that even the canneries cannot now use up the available supply. The supply of salmon from the Sacramento has risen from 5,000,000 to 15,000,000 lbs. annually. The yield of fish from the Potomac has been trebled, and the same account is given of the Connecticut and other rivers, and of the lakes of the interior. From the Pacific coast alone no less than 81,302,400 lbs. of salmon were canned last year, the prime value of which amounted to £1,812,800. In short, it has been put beyond all doubt that by such endeavours as have been so well carried out by the United States Commission on Fish and Fisheries it is easy to sustain and to extend to almost any degree the supply of this leading article of food. Full information respecting the work of the American Commission, and the general progress of fish culture in that country, has been extensively diffused by means of the bulky annual report of the Commission, and many monographs and special reports by members of the staff and other experts. From time to time the work of the American fish culturists has received the highest commendation from authorities on the subject all over the world.

The United States of America have surpassed all competitors in the liberality, intelligence and success of their fish cultural operations; but other nations have given the matter considerable attention, and many are now awakening to its great importance. Before recrossing the Atlantic a glance may be made at the work done, and still being carried on by Canada. Here there are twelve large hatcheries or stations, which reared and distributed throughout Canadian waters, from the commencement of their operations, in 1869, to 1884, nearly 400,000,000 of fry, and this work has since been continued at the rate of over 100,000,000 eggs hatched every season. The results of this have been a very marked improvement of the Dominion fisheries, especially in fresh waters. A notable example is the Fraser River, which, having been depleted of salmon to an alarming extent through reckless over-fishing, stimulated by the demands of the canneries, has been again rapidly restocked through cultural operations. She has likewise bestowed much attention on the arrest of destructive lobster and oyster fishing, and to the restoration and future protection of these valuable fisheries. At Dildo, Trinity Bay, Newfoundland, 5,000,000 young lobsters, which had been reared on cod livers, were recently turned into a newly-erected fish farm. This farm has been prepared for the hatching and rearing of young cod, 200,000,000 millions of which it is capable of holding at a time; but having been completed too late last season for this purpose, is temporarily used to rear these five millions of young lobsters.

Among European nations greater attention has been given to fishery questions by Germany, France, Norway and Holland, than by others. There is a German Fishery Union, devoting itself chiefly to fish propagation, and a German Fish Commission, supported by Government, whose functions are chiefly investigatory of sea fisheries. In Germany the domestication of carp, goldfish, &c., has been practised for many centuries, and is turned to commercial profit as well as household use. Many of the greater landowners—among whom Prince Bismarck may be instanced—derive a considerable profit from this source. Very successful revivals of carp culture in ponds and small waters have been made in the United States, and elsewhere, from introductions of German stock. The chief seat of German pisciculture is at Huningen, in Alsace, now by the fortunes of war a German possession, but which was originally established by the French Government in 1850 under Professor Coste. Here public fish culture was first systematically practised, and here are raised supplies for replenishment of the rivers of the Fatherland.

The sea fisheries of France are of great extent. At Boulogne alone it is calculated that the annual yield of fish is equal to the flesh of 40,000 bullocks; but for political and perhaps other reasons French fish culture has for some time been in rather a languishing condition. Formerly France took the lead; but she has been deprived of her leading establishment at Huningen, and though she has founded another at Epinal in the Voeges Mountains which promises well, further time is needed for its development. In France great attention is now being given by means of the allotment system to ostriculture, and the results so far are very encouraging. French fishermen are among the most intelligent of their class. A slight but significant instance of this is the attachment of small electric lamps to their gill-nets for the attraction of fish. Here is an idea which is probably destined to considerable extension, since it is well known that fish are readily attracted and deluded by artificial lights.

In Norway, Sweden, Holland, Denmark, Austria, Italy, Switzerland, Poland and Russia attention has for long been more or less bestowed on pisciculture, and the subject is at the present time more or less active, mainly in proportion to the extent and situation of available fishing grounds. In the last-named country M. Wraasky, the discoverer of the dry method of fecundation of fish eggs, superintends an important fish cultural establishment, under Government auspices, at Nikolsk in Novgorod, which is capable of hatching about 2,000,000 ova every season.

In China and Japan primitive methods of fish culture have been practised for time out of memory; but now, in the latter country at least, the annual value of whose fishings is about £7,000,000, or nearly three times that of Scotland, all the modern methods of fish culture have been imported, and are being worked on a commercial scale with the encouragement and aid of the Government.

Finally, we come to the condition of the fisheries and of the fish culture in our own country. The scarcity and dearth of fish are with us matter of frequent complaint, and here, if anywhere, it might be thought every effort would be made, through public as well as private channels, to maintain and extend the productiveness of our public fisheries. It has been shown by convincing proofs that fish of every useful species can and are being by artificial help propagated and multiplied elsewhere for public needs. It is equally true that though now and then there may be a brief glut of fish in this or that local market, due to an accidental, or it may be, a culpable cause, the masses in this country are still most inadequately provided with this form of food. Here, surely, is a clear and imperative national duty, yet our Government has hitherto been almost wholly indifferent to it. By prohibitory legislation we have laboured to keep the herring on our coasts and the salmon in our rivers, and have only produced a state of matters in which offshore and inshore fishermen are in deadly opposition to each other, with diminishing takes and dwindling returns as the result. But of scientific investigation into the decay or stagnation of our marine fisheries, or of enlightened measures for their recuperation and extension, we have as yet done nothing of practical value. We do not possess a single public hatchery or nursery for the propagation and distribution of fish. We have, within the past few years, established two or three small marine laboratories, poorly equipped, and scarcely seconded at all by skilled observations at sea, as they ought to be. Some feeble attempts at scientific investigation of certain fishery problems have been recently made by the Scotch Fishery Board, but little practical good has come, or could come, from an enterprise so very poorly furnished.

It is a saddening reflection that we can afford every year, with never a doubt or grudge, many millions of money for purposes of war, and so very little to render the first necessities of life more abundant and accessible. We have at last a Department of Agriculture, languishing and ineffective though it may be, but in the hardly less important domain of aquaculture we may be said to be nationally doing nothing. Could we devote the price of a single warship to the development of our fisheries upon lines lying reasonably within the sphere of government, how great would be the stimulus to these national interests and how immense the benefit to the people. Surely the time may not be far distant when there shall be a revival of legislation directed to full satisfaction of the elementary wants of our race, and when, as one of the foremost results of this, the question of a full and cheap supply of wholesome fish for food will receive wise and adequate treatment from the national Executive.

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